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ALLEN, DR. GLOVER M., Museum Comp. Zool., Cambridge, Mass.	(1896)1921
ANTHONY, A. W., Nat. Hist. Mus., Balboa Park, San Diego, Calif.	(1885)1895
BANGS, OUTRAM, Museum Comp. Zoology, Cambridge, Mass.	(1884)1901
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*BENT, ARTHUR CLEVELAND, 140 High St., Taunton, Mass.	(1889)1909
BERGTOLD, DR. W. H., 1159 Race St., Denver, Colo.	(1889)1921
BISHOP, DR. LOUIS B., 450 Bradford St., Pasadena, Calif.	(1885)1901
BROOKS, ALLAN C., Okanagan Landing, B. C., Can.	(1902)1921
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CHAPMAN, DR. FRANK M., Am. Mus. Nat. Hist., New York, N. Y.	(1885)1888
DEANE, RUTHVEN, Room 813, 112 W. Adams St., Chicago, Ill.	..... 1883
*DWIGHT, DR. JONATHAN, 43 W. 70th St., New York, N. Y.	(1883)1886
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GRINNELL, DR. GEORGE BIRD, 238 E. 15th St., New York, N. Y.	..... 1883
GRINNELL, DR. JOSEPH, Mus. Vert. Zool., Univ. Calif., Berkeley, Calif.	(1894)1901
GRISCOM, LUDLOW, Mus. Comp. Zool., Cambridge, Mass.	(1908)1925
JONES, LYND, 352 West College St., Oberlin, Ohio	(1888)1905
KALMBACH, EDWIN R., Biological Survey, Washington, D. C.	(1910)1927
*MAILLIARD, JOSEPH, 1815 Vallejo St., San Francisco, Calif.	(1895)1914

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 NEHRLING, H., Naples, Tamiami Trail, Lee Co., Fla..... 1883  
 NELSON, DR. E. W., Biological Survey, Washington, D. C..... 1883  
 \*OBERHOLSER, DR. HARRY C., Biol. Survey, Washington, D. C.. (1888)1902  
 OSGOOD, DR. WILFRED H., Field Mus. Nat. Hist., Chicago, Ill... (1893)1905  
 \*PALMER, DR. T. S., 1939 Biltmore St., N. W., Washington, D. C.  
 (1888)1901  
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 ROBERTS, DR. THOMAS S., Univ. of Minnesota, Minneapolis, Minn... 1883  
 SAUNDERS, WILLIAM E., 240 Central Ave., London, Ont., Can..... 1883  
 \*STONE, DR. WITMER, Acad. Nat. Sciences, Philadelphia, Pa... (1885)1892  
 SWARTH, HARRY S., 2800 Prince St., Berkeley, Calif..... (1900)1916  
 TAVERNER, PERCY A., National Museum, Ottawa, Ont., Can... (1902)1917  
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 \*WETMORE, DR. ALEXANDER, U. S. Nat. Mus., Washington, D. C.  
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 WIDMANN, OTTO, 5105 Enright Ave., St. Louis, Mo..... 1884

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well Road, London, S. W. 7, England.....(1902)1911
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(1884)1891
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SCHENK, JAKOB, Secy. Roy. Hungarian Inst. Ornith., Debroi-Ut 15, Budapest II, Hungary.....	1926



SCHJÖLER, DR. E. LEHN, Uraniavej 14-16, Copenhagen, Denmark..	1920
SETH-SMITH, DAVID, Zoological Gardens, London, N. W. 8, England..	1920
SKOVGAARD, PETER, Skovbo, pres Viborg, Denmark.....	1926
SNETHLAGE, DR. EMILIA, Mus. Nacional, Rio Janeiro, Brazil.....	1915
SNOUKAERT VON SCHAUBURG, BARON RENE C. E. G. J. VAN, Hotel les Terrasses, Territet, Switzerland.....	1920
STRESEMANN, DR. ERWIN, Zool. Museum, Universität, Invalidenstrasse 43, Berlin, N. 4, Germany.....	1922
SWYNNERTON, C. F. M., Poste Restante, Dar-es-Salaam, Tanganyika Ter., East Africa.....	1918
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THOMSON, DR. A. LANDBOROUGH, 9 Addison Gardens, Kensington, London, W. 14, England.....	1922
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TICEHURST, N. F., 24 Pevensey Road, St. Leonards-on-Sea, England.	1918
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BAILEY, MRS. VERNON, 1834 Kalorama Road, Washington, D. C. (1885)1901	
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*BALDWIN, S. PRENTISS, 11025 East Boulevard, Cleveland, Ohio	(1917)1921
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- BARTSCH, DR. PAUL, U. S. Nat. Museum, Washington, D. C.... (1896)1902  
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 BOND, FRANK, 3127 Newark St., N. W., Washington, D. C.... (1887)1901  
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 BRYAN, WM. ALANSON, Museum, Exposition Park, Los Angeles, Calif..... (1898)1901  
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 BUTLER, AMOS W., 52 Downey Ave., Irvington, Indianapolis, Ind..... (1885)1901  
 \*CHAMBERS, W. LEE, Box 4, Eagle Rock, Calif..... (1907)1913  
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 \*COOKE, MISS MAY THACHER, 2572 University Place, Washington, D. C..... (1915)1926  
 \*CROSBY, MAUNSELL S., Rhinebeck, N. Y..... (1904)1926  
 DAWSON, WM. L., 1133 Huntington Bank Bldg., Columbus, O... (1895)1905  
 DEANE, WALTER, 29 Brewster St., Cambridge, Mass..... (1897)1901  
 \*DICKY, DONALD R., 514 Lester Ave., Pasadena, Calif..... (1907)1922  
 \*DIXON, JOSEPH S., Mus. Vert. Zool., Univ. Calif., Berkeley, Calif. (1917)1923  
 EATON, PROF. ELON HOWARD, 678 Main St., Geneva, N. Y.... (1895)1907  
 EVERMANN, PROF. B. W., Calif. Acad. Sci., San Francisco, Calif. (1883)1901  
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 FINLEY, WILLIAM L., Jennings Lodge, Clackamas Co., Ore.... (1904)1907  
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 GOLDMAN, EDWARD A., Biological Survey, Washington, D. C... (1897)1902  
 GROSS, DR. ALFRED O., Bowdoin College, Brunswick, Maine.. (1907)1922  
 HARPER, FRANCIS, 234 Berkeley St., Boston, Mass..... (1907)1917  
 \*HARRIS, HARRY, 5234 Hermosa Ave., Eagle Rock, Calif.... (1911)1919  
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 HOFFMAN, RALPH, Director Mus. Nat. Hist., Santa Barbara, Calif. (1893)1901  
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 \*HOWELL, A. B., U. S. Nat. Museum, Washington, D. C..... (1909)1916  
 HOWELL, ARTHUR H., 2919 S. Dakota Ave., Washington, D. C.. (1889)1902  
 HUBER, WHARTON, 225 St. Marks Sq., Philadelphia, Pa..... (1915)1922

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 JOB, HERBERT K., P. O. Box 456, Columbia, S. C. (1896)1901  
 \*KENNARD, F. H., Dudley Road, Newton Centre, Mass. (1892)1912  
 \*LAW, J. EUGENE, Gen. Delivery, Altadena, Calif. (1907)1916  
 LIGON, J. STOKLEY, Box 350, Sante Fe, N. Mex. (1912)1927  
 \*LINCOLN, F. C., Biological Survey, Washington, D. C. (1910)1921  
 LLOYD, HOYES, 285 Mariposa Ave., Rockcliffe Park, Ottawa, Ont.,  
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 \*LYON, W. I., 124 Washington St., Waukegan, Ill. (1921)1925  
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 MOORE, ROBERT THOMAS, 1420 E. Mountain St., Pasadena, Calif.  
 (1898)1914  
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 NICHOLS, JOHN T., Am. Mus. Nat. Hist., New York, N. Y. (1901)1910  
 NORTON, A. H., Mus. Nat. Hist., 22 Elm St., Portland, Maine. (1890)1902  
 PEARSON, DR. T. GILBERT, 1974 Broadway, New York, N. Y. (1891)1902  
 PENARD, THOMAS E., 12 Norfolk Road, Arlington, Mass. (1912)1919  
 PENNOCK, CHAS. J., Kennett Square, Pa. (1888)1901  
 PREBLE, EDWARD A., Biological Survey, Washington, D. C. (1892)1901  
 RATHBUN, SAMUEL F., 306 Roy vue Apts., 615 Bellevue Ave. N.,  
 Seattle, Wash. (1893)1902  
 \*RIVES, DR. WM. C., 1702 R. I. Ave., Washington, D. C. (1885)1901  
 ROBINSON, COL. WIRT, U. S. A., West Point, N. Y. (1897)1901  
 \*ROGERS, CHARLES H., East Guyot Hall, Princeton, N. J. (1904)1921  
 ROWAN, PROF. WILLIAM, Univ. Alberta, Edmonton, Alta, Can. (1920)1927  
 SAUNDERS, ARETAS A., 48 Longview Ave., Fairfield, Conn. (1907)1920  
 SETON, ERNEST THOMPSON, Greenwich, Conn. (1883)1901  
 \*SHERMAN, MISS ALTHEA R., National, via McGregor, Iowa. (1907)1912  
 \*SHIRAS, HON. GEORGE, 3D, 4530 Klinge St., Wesley Heights, Wash-  
 ington, D. C. (1907)1915  
 SIMMONS, GEO. FINLAY, Cleveland Mus., 2717 Euclid Ave., Cleve-  
 land, O. (1910)1923  
 STEPHENS, FRANK, Nat. Hist. Museum, San Diego, Calif. (1883)1901  
 STEPHENS, PROF. T. C., Morningside College, Sioux City, Iowa. (1909)1920  
 STODDARD, HERBERT L., Beachton, Grady Co., Ga. (1912)1924  
 STORER, DR. TRACY IRWIN, Div. Zool., Univ. Farm, Davis, Calif.  
 (1916)1922

- STRONG, DR. REUBEN M., 5840 Stoney Island Ave., Hyde Park Sta.,  
Chicago, Ill. .... (1889)1903
- SUTTON, GEO. M., State Game Comm., Harrisburg, Pa. .... (1919)1925
- SWENK, MYRON H., 1410 N. 37th St., Lincoln, Nebr. .... (1904)1920
- THAYER, JOHN ELIOT, Lancaster, Mass. .... (1898)1905
- TOWNSEND, DR. CHARLES H., Aquarium, Battery Park, New York,  
N. Y. .... (1883)1901
- TROTTER, DR. SPENCER, Darlington & Miner Sts., West Chester, Pa.  
(1888)1901
- \*TYLER, DR. WINSOR M., 112 Pinckney St., Boston, Mass. .... (1912)1917
- VAN ROSSEM, ADRIAAN J., 514 Lester Ave., Pasadena, Calif. .... (1923)1927
- WARREN, E. R., 1511 Wood Ave., Colorado Springs, Colo. .... (1902)1910
- WAYNE, ARTHUR T., Mt. Pleasant, S. C. .... (1905)1906
- WENDLE, MRS. JOSEPH, Bowron Lake, Barkersville, B. C. Can. .... 1927
- WHITE, FRANCIS BEACH, St. Paul's School, Concord, N. H. .... (1891)1925
- WILLETT, GEORGE, Los Angeles Museum, Exposition Park, Los  
Angeles, Calif. .... (1912)1913
- \*WILLIAMS, ROBERT WHITE, Dept. Agric., Washington, D. C. (1900)1918
- WOLCOTT, DR. ROBERT H., State University, Lincoln, Nebr. .... (1901)1903
- \*WOOD, DR. CASEY A., 7 W. Madison St., Chicago, Ill. .... (1917)1921
- WOOD, NORMAN A., Museum Univ. of Mich., Ann Arbor, Mich. (1904)1912
- WRIGHT, DR. ALBERT H., Upland Road, Ithaca, N. Y. .... (1906)1919
- WRIGHT, MRS. MABEL OSGOOD, Box 32, Fairfield, Conn. .... (1895)1901
- ZIMMER, JOHN T., Field Mus. Nat. Hist., Chicago, Ill. .... (1908)1922

## ASSOCIATES.

## \*Life Associates.

## \*\*Honorary Life Associates.

- ABBAY, G. F., Cottonwood, Minn. .... 1924
- ABBOTT, CLINTON GILBERT, Nat. Hist. Mus., Balboa Park, San  
Diego, Calif. .... 1898
- ABBOTT, MISS HARRIET, P. O. Box 125, Fryeburg, Maine .... 1918
- \*ACHILLES, MRS. GERTRUDE S., Morgan Hill, Calif. .... 1925
- ADAMS, BENJAMIN, Wethersfield, Conn. .... 1911
- ADAMS, DR. CHARLES E., 29 W. Broadway, Bangor, Maine .... 1922
- ADAMS, IVERS S., 98 Washington St., Dorchester, Mass. .... 1923
- ADAMS, WILLIAM C., 282 Newbury St., Boston, Mass. .... 1920
- ADAMS, DR. Z. B., 43 Cottage Farm Road, Brookline, Mass. .... 1908
- AGASSIZ, R. L., 14 Ashburton Pl., Boston, Mass. .... 1922
- AHRENS, RAYMOND M., 2513 Lincoln Ave., Chicago, Ill. .... 1927
- AHRENS, DR. T. G., Xantenerstrasse 21, Berlin W. 15, Germany. .... 1920
- \*\*AIKEN, CHARLES E. H., 1523 N. Tejon St., Colorado Springs, Colo. 1926
- AIMAR, DR. CHARLES PONS, 4 Vanderhorst St., Charleston, S. C. .... 1916
- \*ALEXANDER, MISS ANNIE M., Box 248, Suisun City, Calif. .... 1911
- ALLEN, MRS. AMELIA SANBORN, 37 Mosswood Road, Berkeley, Calif. 1919

ALLEN, ARTHUR F., 714 34th St., Sioux City, Iowa.....	1919
ALLEN, DEVERE, Wilton, Conn.....	1925
ALLEN, WALTER F., 168 Delavan Ave., Newark, N. J.....	1925
ALLERT, OSCAR P., R. D. 1, McGregor, Iowa.....	1923
ALSOP, MISS ELIZABETH B., 229 Euclid Ave., Ridgway, Pa.....	1926
ANDERSON, CHAS. J., 2033 Wilbraham Rd., Springfield, Mass.....	1922
ANDERSON, EDWIN C., R. R. 4, Dell Rapids, S. D.....	1919
ANDERSON, WM., South Park, Merriam, Kans.....	1925
ANDREWS, ARTHUR ALLEN, 28 Dungan St., Canandaigua, N. Y.....	1924
ANDREWS, CLEMENT W., The John Crerar Library, Chicago, Ill.....	1924
ANGELL, WALTER A., 33 Westminster St., Providence, R. I.....	1901
ANGWIN, J. G., 146 Green Ridge St., Dunmore, Pa.....	1926
ANKENEY, MISS HELEN, Rt. 10, Xenia, Ohio.....	1920
ANTHONY, H. E., Am. Mus. Nat. Hist., New York, N. Y.....	1911
ARMSTRONG, EDWARD E., 2249 Calumet Ave., Chicago, Ill.....	1904
ARNOLD, BENJAMIN W., 465 State St., Albany, N. Y.....	1924
ARNOLD, EDWARD, Canadian Nat'l R'Ys., Montreal, Que., Can.....	1894
ARNOLD, DR. H. D., 520 Commonwealth Ave., Boston, Mass.....	1923
ARTHUR, E. W., 7438 Perrysville Ave., Ben Avon, Pittsburgh, Pa.....	1919
ARTHUR, STANLEY CLISBY, 1309 State St., New Orleans, La.....	1916
ASPINWALL, MRS. C. A., 1839 Wyoming Ave., Washington, D.C.....	1916
ATHERTON, EDWARD H., 22 Aldworth St., Jamaica Plain, 30, Mass.....	1917
ATKINSON, DR. D. A., 132 Oakwood Ave., West View, Pittsburgh, Pa.....	1924
ATKINSON, HENRY S., 5 N. Edwards Hall, Princeton, N. J.....	1926
ATWELL, GEORGE C., Strafford, N. H.....	1920
AUGSPURGER, EARL F., R. D. 1, Pulaski, Iowa.....	1927
AUSTIN, OLIVER L., JR., Hill Rest, Tuckahoe, N. Y.....	1925
AVERBACH, BERTRAM F., 2173 Cummington Rd., Cleveland, Ohio.....	1924
AVERILL, CHARLES KETCHUM, 1075 Iranistan Ave., Bridgeport, Conn.....	1919
AVERY, CARLOS, 2273 Woolworth Bldg., 233 Broadway, New York, N. Y.....	1925
BABCOCK, DR. HAROLD L., Woodleigh Road, Dedham, Mass.....	1926
BACHMAN, DR. HAROLD A., 2340 Lincoln Park W., Chicago, Ill.....	1924
BACON, FRANCIS L., 236 Winona Ave., Germantown, Pa.....	1917
BADÉ, DR. WM. FREDERIC, 2616 College Ave., Berkeley, Calif.....	1916
BAERG, PROF. W. J., Agr. Exp. Sta., Univ. of Ark., Fayetteville, Ark.....	1924
*BAGG, AARON C., 70 Fairfield Ave., Holyoke, Mass.....	1916
BAILEY, ALFRED M., Chicago Academy of Sciences, Chicago, Ill.....	1918
BAILEY, PROF. GUY A., Geneseo, N. Y.....	1910
BAILEY, MRS. H. M., 2109 Nebraska St., Sioux City, Iowa.....	1922
BAILEY, J. W., Mississippi College, Clinton, Miss.....	1925
BAILEY, SAMUEL WALDO, 62 Holmes Road, Pittsfield, Mass.....	1909
BAILLIE, JAMES L., Royal Ont. Mus., Toronto, Ont., Can.....	1923
BAIRD, DAVID G., 228 South Third St., Philadelphia, Pa.....	1924
BAIRD, MISS KATHARINE B., 815 Webster St., Washington, D. C.....	1918
BAIRD, ROBERT LOGAN, 279 Oak St., Oberlin, Ohio.....	1921

BAKER, JOHN H., 1165 5th Ave., New York, N. Y.....	1911
BALDWIN, MRS. HARRY L., 7136 Ridgeland Ave., Chicago, Ill.....	1924
BALES, DR. BLENN R., 149 W. Main St., Circleville, Ohio.....	1907
BALL, MRS. BENNETT F., Oakville, Conn.....	1905
BALL, EDWARD M., Box 144, East Falls Church, Va.....	1918
BALL, DR. JOS. P., 5001 Frankford Ave., Philadelphia, Pa.....	1911
BALL, WM. HOWARD, 1233 Irving St., N. W., Washington, D. C.....	1923
BARBER, PROF. BERTRAM A., 350 West St., North, Hillsdale, Mich.....	1920
BARCLAY, WILLIAM, 110 Nelson St., Barre, Vt.....	1921
BARKER, FRED W. H., 114 Brunswick St., Fredericton, N. B.....	1927
BARKER, MISS HELEN, 421 East Adams St., Sandusky, Ohio.....	1918
BARLOW, H. H., c/o H. H. Dennis, Ill. Athletic Club, Chicago, Ill.....	1921
BARNARD, T. W., 46 Norfolk Road, Arlington, Mass.....	1921
BARNES, CLAUDE T., 359 Tenth Ave., Salt Lake City, Utah.....	1908
BARNES, R. MAGOON, Lacon, Ill.....	1889
BAROODY, MRS. E. T., 3136 Maple Avenue, Berwyn, Ill.....	1927
BARRETT, CHAS. H. M., 1339 Valley Place S. E., Washington, D. C.....	1912
BARRETT, HAROLD LAWRENCE, 30 State St., Boston, Mass.....	1909
BARRY, MISS ANNA K., 5 Bowdoin Ave., Dorchester 21, Mass.....	1907
BARRY, JOHN FREDERICK, JR., 110 Dorset Rd., Syracuse, N. Y.....	1926
BARTRAM, EDWIN B., Bushkill, Pike Co., Pa.....	1913
BARTRAM, JOHN, Rt. 2, West Chester, Pa.....	1924
BASCOM, H. P., Stockton, St. Michael, Barbados, B. W. I.....	1922
BASNER, HARRY, 440 Broadway, New York, N. Y.....	1927
BASSETT, FRANK NEWTON, 91 Merced Ave., San Francisco, Calif.....	1919
BASSETT, MRS. V. H., 1010 E. Park Ave., Savannah, Ga.....	1927
BATES, MISS EMELINE CLARK, 17 Scott St., Chicago, Ill.....	1920
BATES, REV. J. M., Red Cloud, Nebr.....	1918
BATTEN, GEORGE, 15 University Place, Princeton, N. J.....	1914
BAYLEY, IVAN A., North Sydney, Nova Scotia, Canada.....	1927
BAYNARD, OSCAR E., P. O. Box 104, Plant City, Fla.....	1924
BEACH, DR. CHAS. C., 54 Woodland St., Hartford, Conn.....	1922
BEADEL, HENRY L., Route A, Tallahassee, Fla.....	1926
BEATTY, GEO. H. JR., P. O. Box 283, Merion Station, Pa.....	1925
BEAUPRE, EDWIN, Princess St., Kingston, Ont. Can.....	1922
BECK, HERBERT H., Lititz, Lancaster Co., Pa.....	1921
BECK, JOSEPH N., Remsen, Iowa.....	1923
BEDELL, EDGAR, 118 Front St., Schenectady, N. Y.....	1922
BEE, R. G., 81 East Center St., Provo, Utah.....	1926
BELKNAP, JOHN B., 40 Pleasant Street, Framingham, Mass.....	1927
BELL, DR. W. B., 803 Rittenhouse St., Washington, D. C.....	1912
BENDER, RICHARD O., 512 Thayer St., Ridley Park, Pa.....	1927
BENNETT, GEORGE B., 278 South 23rd St., Philadelphia, Pa.....	1927
BENNETT, REV. GEORGE, Iowa City, Iowa.....	1913
BENNETT, WALTER W., 1629 W. Palmer Ave., Sioux City, Iowa.....	1924
BENSON, FRANK W., 14 Chestnut St., Salem, Mass.....	1920



BENSON, MRS. G. F., Owen, Wis.....	1926
BERRY, ELVERTON C., Box 234, Conway, N. H.....	1924
BIBBEE, P. C., Concordia State Normal School, Athens, W. Va.....	1927
BICKNELL, MRS. F. T., 319 S. Normandie Ave., Los Angeles, Calif....	1913
*BICKNELL, GEORGE A., 82 Beaver St., New York, N. Y.....	1926
BIDDLE, MISS EMILY W., 1828 Delancey Place, Philadelphia, Pa.....	1898
*BIGELOW, MRS. A. P., Ogden, Utah.....	1919
BIGELOW, HOMER LANE, 37 Old Orchard Road, Chestnut Hill, Mass..	1902
BIGELOW, DR. LYMAN F., 80 Winter St., Norwood, Mass.....	1914
BIRD, RALPH D., Birtle, Man., Can.....	1927
BISHOP, SHERMAN C., N. Y. State Museum, Albany, N. Y.....	1919
BLACK, JOHN D., Winslow, Ark.....	1926
BLACKWELDER, ELIOT, Stanford University, Calif.....	1895
BLAIR, MISS HELEN M., 254 Melwood St., Oakland, Pittsburgh, Pa....	1924
BLAKE, MRS. E. T., Arlington Ave. & Rincon Rd., Berkeley, Cal....	1927
BLAKE, S. F., Bureau Plant Industry, Dept. Agr., Washington, D. C.	1923
BLANCHARD, FRANK N., Dept. Zool. Univ. Mich., Ann Arbor, Mich..	1924
BLINCOE, BENEDICT J., Rt. 13, Dayton, Ohio.....	1921
BLOOMFIELD, MRS. C. C., 729 West Main St., Jackson, Mich.....	1901
BOARDMAN, MISS E. D., 416 Marlborough St., Boston, Mass.....	1906
BODINE, MRS. DONALDSON, 4 Mills Place, Crawfordsville, Ind.....	1916
BODINE, MISS MARGARET L., 19th & Walnut Sts., Philadelphia, Pa...	1927
BOEHNER, REGINALD STEPHEN, Syracuse Univ., Syracuse, N. Y.....	1919
BOESEL, M. W., 415 S. Washington St., New Bremen, Ohio.....	1922
BOGARDUS, MISS CHARLOTTE, Elm St., Coxsackie, N. Y.....	1909
BOGGS, MISS MARION A., Rt. 3, Waynesville, N. C.....	1924
BOLEN, HOMER R., State Teachers College, Cape Girardeau, Mo....	1926
BOLT, BENJAMIN FRANKLIN, 225 East 46th St., Kansas City, Mo....	1909
BOND, HARRY L., Lakefield, Minn.....	1908
BOND, JAMES, 1213 Locust St., Philadelphia, Pa.....	1923
*BONFILS, FREDERICK G., 1500 East 10th Ave., Denver, Colo.....	1918
BORELL, A. E., 2149 Blake St., Berkeley, Calif.....	1927
BOSSLER, JOHN, Hamburg, Pa.....	1926
BOSSON, CAMPBELL, 19 Brewster St., Cambridge, Mass.....	1906
BOSTWICK, MISS PRUE, 1045 Gaylord St., Denver, Colo.....	1923
BOULUDUC, PETER, Bemidji, Minn.....	1927
BOULTON, W. RUDYERD, Carnegie Mus. Pittsburgh, Pa.....	1915
BOWDISH, B. S., Demarest, N. J.....	1891
BOWDISH, MRS. B. S., Demarest, N. J.....	1902
BOWDITCH, DR. HAROLD, 44 Harvard Ave., Brookline, Mass.....	1900
BOWEN, W. W., Cleveland Mus. Nat. Hist., Cleveland, Ohio.....	1926
BOWLES, MRS. HENRY L., Worthy Hotel, Springfield, Mass.....	1924
BOWMAN, DR. JOHN G., 155 North Dithridge St., Pittsburgh, Pa....	1925
BOYCE, J. G., Box 772, Texarkana, Texas.....	1923
BOYD, MRS. HARRIET T., 17 Marsh St., Dedham, Mass.....	1917
BOYD, HENRY R., 133 Shephard Ave., Newark, N. J.....	1925

BOYLE, ASHBY D., 1001 E. South Temple St., Salt Lake City, Utah.	1921
BRACKEN, MRS. HENRY M., Claremont Inn, Claremont, Calif.	1897
BRADSHAW, FRED, Dept. Agriculture, Regina, Sask., Can.	1921
BRADY, MAURICE K., 3220 17th St., Washington, D. C.	1923
*BRALY, J. C., 501 Burnside St., Portland, Oregon.	1926
*BRANDRETH, COURTENAY, Ossining, N. Y.	1905
*BRANDRETH, FRANKLIN, Ossining, N. Y.	1886
BRANDT, H. W., 14507 Shaker Blvd., Shaker Heights, Cleveland, Ohio.	1915
BRANNON, PETER A., Box 358, Montgomery, Ala.	1919
BRECKENRIDGE, W. J., Zool. Muesum, Univ. Minn., Minneapolis, Minn.	1926
BREDER, CHAS. M., JR., Aquarium, Battery Park, New York, N. Y.	1919
BRETSCH, CLARENCE, 690 Broadway, Gary, Ind.	1924
BRICKENSTEIN, MISS MARY R., 1603 19th St., Washington, D. C.	1920
BRIDGE, EDMUND, 52 Wyman St., West Medford, Mass.	1910
*BRIDGE, MRS. EDMUND, 52 Wyman St., West Medford, Mass.	1902
BRIGHT, STANLEY, R. F. D. 2, Reading, Pa.	1921
BRIMLEY, H. H., State Museum, Raleigh, N. C.	1904
BRISTOL, MISS F. L., 169 Columbia Heights, Brooklyn, N. Y.	1921
BRITAIN, WM. E., Fort Osborne, Winnipeg, Man., Can.	1927
BROCKWAY, ARTHUR W., Hadlyme, Conn.	1912
BRODE, DR. H. S., 433 E. Alder St., Walla Walla, Wash.	1923
BRODKORB, PIERCE, 711 Judson Ave., Evanston, Ill.	1925
BROLEY, C. L., Mgr. Bank of Montreal, Corydon Ave., Winnipeg, Man., Can.	1926
BRONSON, BARNARD S., 46 Lenox Ave., Albany, N. Y.	1920
BROOKS, C. K., 10600 Quincy Ave., Cleveland, Ohio.	1924
BROOKS, DR. EARL, Noblesville, Ind.	1924
BROOKS, REV. EARLE AMOS, 28 Newbury St., Malden, Mass.	1892
BROOKS, GORHAM, 60 State St., Boston, Mass.	1919
BROOKS, S. C., Rutgers Univ., New Brunswick, N. J.	1924
BROUN, MORRIS, 48 Rutland Sq., Boston, Mass.	1922
BROWN, MISS BERTHA L., 53 Court St., Bangor, Maine.	1918
BROWN, EDMUND P., 48 Union St., Belfast, Maine.	1920
BROWN, EDWARD J., Box 700, Eustis, Fla.	1891
BROWN, HARRY A., 40 Talbot St., Lowell, Mass.	1912
BROWN, HUBERT H., 158 Glebeholme Blvd., Toronto, Ont., Can.	1924
BROWN, WM. JAMES, 250 Oliver Ave., Westmount, Que., Can.	1908
BROWN, WM. L., U. S. National Museum, Washington, D. C.	1927
BROWNING, WM. HALL, 16 Cooper Square, New York, N. Y.	1911
BROWNLIE, DR. IRA C., 2040 Clermont St., Denver, Colo.	1927
BRUEN, FRANK, 52-B Prospect Place, Bristol, Conn.	1908
BRUMBAUGH, CHALMERS S., 2606 Elsinor Ave., Baltimore, Md.	1916
BRUNER, S. C., Estación Agronomica, Santiago de las Vegas, Habana, Cuba.	1926
*BRUUN, CHAS. A., 421 Commerce Bldg., Kansas City, Mo.	1919



BRYAN, MRS. A. H., P. O. Box 414, Balboa Heights, Canal Zone...	1927
BRYANT, LINCOLN, JR., 149 Randolph Ave., Milton, Mass.....	1927
BRYANT, WM. L., Park Museum, Providence, R. I.....	1926
BRYENS, O. M., McMillan, Luce Co., Mich.....	1924
BUCKLIN, MRS. WALTER S., 469 Walnut St., Brookline, Mass.....	1924
BULL, CHARLES L., Oradell, N. J.....	1920
BULLOCK, D. S., Casilla 71, Angol, Chile.....	1920
BUNDICK, MISS H. E., 1465 Columbia Road, N. W., Washington, D. C.	1924
BURBANK, MRS. GEORGE E., Sandwich, Mass.....	1922
BURGE, E. SEYMOUR, 924 Forest Ave., Wilmette, Ill.....	1927
BURGESS, DR. HENRY C., Brigham Hall, Canandaigua, N. Y.....	1920
BURGESS, JOHN KINGSBURY, Chestnut St., Dedham, Mass.....	1898
BURGESS, THORNTON WALDO, 61 Washington Road, Springfield, Mass.	1919
BURLEIGH, THOS. D., State College of Agriculture, Athens, Ga.....	1913
BURNELL, MISS E. F., 1029 N. Stanley Ave., Los Angeles, Calif.....	1923
BURNETT, WILLIAM L., Agric. College, Fort Collins, Colo.....	1895
BURNHAM, STEWART H., Dept. Botany, Cornell Univ., Ithaca, N. Y.	1919
BURT, WM. H., Museum, Mus. Vert. Zool., Berkeley, Cal.....	1925
BURTCH, VERDI, Branchport, N. Y.....	1903
BUSHBY, FRED W., 17 Washington St., Peabody, Mass.....	1922
BUTCHER, HOWARD, JR., Stanfair and Wistar Roads, Ardmore, Pa...	1921
BUTLER, EDWARD B. 2d, 100. Green Bay Road, Hubbard Woods, Ill.	1925
BUTTS, WILBUR K., 206 Cascadilla Ave., Ithaca, N. Y.....	1927
BYRD, DR. HIRAM, 205 Zask St., Tampa, Fla.....	1925
BYRD, WALLACE, c/o Dr. Hiram Byrd, 205 Zask St., Tampa, Fla...	1925
CADWALADER, CHAS. M. B., Fort Washington, Pa.....	1924
CAHN, DR. ALVIN R., 164 N. LaSalle St., Chicago, Ill.....	1917
CAIRNS, J. M., 2403 N. Washington Ave., Scranton, Pa.....	1926
CALDER, JAMES A., Rt. 1, Buena Park, Orange Co., Calif.....	1926
CALHOUN, MISS EMMA MAY, 39 Auburn St., Brookline, Mass.....	1921
CALLENDER, JAMES PHILIPS, 45 Wall St., New York, N. Y.....	1903
CALVERT, EARL, c/o L. W. Brooks, Rt. 3, Sterling, Hastings Co., Ont., Can.....	1919
CAMP, C. L., 635 North Irving Ave., Scranton, Pa.....	1926
CAMP, ROBERT D., Brownsville, Texas.....	1926
CAMPBELL, DR. JAMES A., 13 Elm St., Toronto, Ont., Can.....	1927
CANNON, GABRIEL, Spartanburg, S. C.....	1920
CAPEN, MISS ETHEL A., 100 West 80th St., New York. N. Y.....	1924
CAPEN, FREDERICK M., 100 West 80th St., New York, N. Y.....	1925
CAREY, HENRY R., 3115 Queen Lane, Germantown, Philadelphia, Pa.	1925
CARLISLE, GEORGE L., JR., 550 Park Ave., New York, N. Y.....	1920
CARPENTER, REV. C. K., Baileyville, Ill.....	1894
CARPENTER, G. I., 746 Lincoln Place, Brooklyn, N. Y.....	1907
CARRIGER, H. W., 5185 Trask St., Fruitvale Station, Oakland, Calif..	1913
CARROLL, JAMES J., P. O. Box 356, Houston, Texas.....	1926
CARTER, JOHN D., Lansdowne, Pa.....	1907

CARTER, T. DONALD, Am. Mus. Nat. Hist., New York, N. Y.	1921
CARTH, MRS. JEAN E., Morse Pond Grove, Wellesley, Mass.	1922
CARTWRIGHT, B. W., 213 Phoenix Block, Winnipeg, Man., Can.	1924
CARTWRIGHT, W. J., Williamstown, Mass.	1920
CASE, MRS. F. E., 1717 Market Ave. N., Canton, Ohio.	1927
CASS, MISS ANNE, 19 Susquehanna Ave., Great Neck, L. I., N. Y.	1925
**CHAMBERLAIN, CHAUNCEY W., Hotel Hemenway, Boston, Mass.	1885
CHAMBERLAIN, EDWARD B., 182 Ashley Ave., Charleston, S. C.	1923
CHANDLER, W. P. JR., 426 S. Linden Ave., Pittsburgh, Pa.	1924
*CHAPIN, PROF. ANGIE C., Waban Hotel, Wellesley, Mass.	1896
CHAPIN, MRS. G. W., 350 Farmington Ave., Hartford, Conn.	1926
CHAPMAN, CLARENCE E., Oakland, N. J.	1924
CHAPMAN, MRS. F. M., 1158 5th Ave., New York, N. Y.	1908
CHASE, CHAS. E., 31 Euclid Ave., East Lynn, Mass.	1922
CHASE, SIDNEY, P. O. Box 162, Nantucket, Mass.	1904
CHEESMAN, WM. H., Biological Survey, Washington, D. C.	1920
CHENEY, REV. R. F., St. Mark's Rectory, Southborough, Mass.	1922
CHILDS, MISS HELEN P., Chevy Chase, Md.	1922
CHILDS, HENRY EVERETT, 335 Pleasant St., Rumford, R. I.	1919
CHRISTOFFERSON, DR. K., Munuskong State Park, R. F. D. 1, Pick- ford, Mich.	1921
*CHRISTY, BAYARD H., 403 Frederick Ave., Sewickley, Pa.	1922
*CHURCH, MISS CYNTHIA, The Point, Great Neck, L. I., N. Y.	1926
CLABAUGH, E. D., 18 Lenox Road, Berkeley, Calif.	1924
CLARK, ARTHUR L., 108 Massachusetts Ave., Boston, Mass.	1920
CLARK, AUSTIN H., 1818 Wyoming Ave., Washington, D. C.	1919
CLARK, CLARENCE, H., Lubec, Maine.	1913
CLARK, GEORGE R., Cynwyd, Pa.	1926
CLARK, MISS JESS L., Chicago Academy of Sciences, Chicago, Ill.	1927
CLARK, JOSIAH H., 641 14th St., Paterson, N. J.	1895
CLARKE, CHARLES E., 51 Summit Road, Medford, Mass.	1907
CLARKE, GEORGE L., 219 Blackstone Blvd., Providence, R. I.	1924
CLARKE, MRS. NED, 105 East Chicago St., Cold Water, Mich.	1925
CLAY, MISS MARCIA B., R. D. 1, Bristolville, Ohio.	1925
CLAY, MRS. SIDNEY G., 148 Duncan Ave., Paris, Ky.	1926
CLEAVES, HOWARD H., 1848 Washington Ave., New York, N. Y.	1907
CLINGMAN, GEORGE F., 7210 Euclid Ave., Chicago, Ill.	1924
COBB, DR. STANLEY, Ponkapog, Sta., Canton, Mass.	1909
COCHRAN, MISS DORIS M., U. S. Nat. Museum, Washington, D. C.	1927
COFFEL, HAL HERBERT, Pennville, Jay Co., Ind.	1927
COFFIN, MRS. F. H., 1528 Jefferson Ave., Scranton, Pa.	1921
COFFIN, MRS. PERCIVAL B., 5708 Kenwood Ave., Chicago, Ill.	1905
COFFIN, ROBERT L., Japanese Beetle Lab., Riverton, N. J.	1917
COGGINS, HERBERT L., 2929 Piedmont Ave., Berkeley, Calif.	1913
COLBURN, ALBERT E., 716 S. Flower St., Los Angeles, Calif.	1891
COLE, DR. LEON J., Dept. Genetics, Univ. Wisconsin, Madison, Wis.	1908

COLEMAN, ROBERT H., 4 Green St., Charleston, S. C.....	1926
COLLINS, ALFRED M., 226 Columbia Ave., Philadelphia, Pa.....	1921
*COLLINS, HENRY H., BRYN MAWR, Pa.....	1923
COMMONS, FRANK W., 608 Chamber of Commerce, Minneapolis, Minn.....	1922
COMMONS, MRS. F. W., 608 Cham'r of Commerce, Minneapolis, Minn.....	1902
COMPTON, LAWRENCE V., Museum, Univ. Kansas, Lawrence, Kans.....	1926
CONGER, ALLEN C., Ohio Wesleyan Univ., Delaware, Ohio.....	1919
*CONOVER, HENRY B., 6 Scott St., Chicago, Ill.....	1920
COOK, MISS FANNYE A., Crystal Springs, Miss.....	1924
COOK, GRANT M., 27 Tod Lane, Youngstown, Ohio.....	1924
COOKE, GEORGE J., Ambler, Pa.....	1925
COOKMAN, ALFRED, 938 East Dryden St., Glendale, Calif.....	1920
COOLIDGE, J. T., JR., Green St., Readville, Mass.....	1927
COOLIDGE, PHILIP T., 31 Central St., Bangor, Maine.....	1919
COPE, FRANCIS R., JR., Dimock, Pa.....	1892
COPELAND, MANTON, 88 Federal St., Brunswick, Maine.....	1900
CORDIER, DR. A. H., 415 Benton Blvd., Kansas City, Mo.....	1920
CORYELL, SHERMAN, 1500 Hood Ave., Chicago, Ill.....	1921
COUCH, LEO K., Capitol. Bldg., Olympia, Wash.....	1922
CÔUES, DR. WM. P., 12 Monmouth Court, Brookline, Mass.....	1920
COURT, EDWARD J., 1723 Newton St., N. W., Washington, D. C.....	1927
COVELL, DR. HENRY H., 1600 East Ave., Rochester, N. Y.....	1918
COX, ARTHUR M., 1135 Spruce Street, Winnetka, Ill.....	1927
COX, RODMAN DAYTON, 785 South Ave., Rochester, N. Y.....	1919
CRABBE, MRS. CHAS. 80 Oak St., Far Rockaway, N. Y.....	1921
CRAIG, GLENN C., 2222 Cole St., Florence, Ala.....	1923
CRAIGMILLE, MISS ESTHER A., 121 Franklin Ave., River Forest, Ill.....	1927
CRANDALL, BOWEN S., JR., 213 Raymond St., Chevy Chase, Md.....	1927
CRANDALL, LEE S., Zoological Park, New York, N. Y.....	1909
CRANE, MISS CLARA L., Dalton, Mass.....	1904
CRANE, LESLIE, 161 Holly St., Rutland, Vt.....	1922
CRIDDLE, NORMAN, Treesbank, Man., Can.....	1918
CROCKER, REV. WM. T., 263 Lexington Ave., New York, N. Y.....	1920
CROSS, ALBERT ASHLEY, Huntington, Mass.....	1918
CROSSMAN, MISS ANNIE F., 49 Clinton Ave., Pittsfield, Mass.....	1920
CROWELL, MISS J. OLIVIA, Dennis, Mass.....	1918
CROWELL, MISS SARAH B., Dennis, Mass.....	1924
CROWL, GEORGE H., 516 N. Bever St., Wooster, Ohio.....	1927
CUMMINGS, MISS EMMA G., 16 Kennard Road, Brookline, Mass.....	1903
CUNNINGHAM, WALTER, 3009 Dunham Ave., Kansas City, Mo.....	1919
CURRIE, ROLLA P., 632 Keefer Pl., Washington, D. C.....	1895
CURRIER, E. S., 416 E. Chicago St., St. John's Sta., Portland, Ore.....	1894
CURTIS, CHARLES P., 71 Ames Bldg., Boston, Mass.....	1915
CURTIS, WILLIAM W., 267 Humboldt Ave., Roxbury, Mass.....	1924
CUTLER, MRS. FREDERICK M., 103 Butterfield Terrace, Amherst, Mass.....	1923

CUTLER, DR. IRA E., 2122 South Clayton St., Denver, Colo. ....	1926
CUTTER, MISS LUCIA B., Jaffrey, N. H. ....	1920
CUYLER, WM. KENNETH, 1216 W. 22nd St., Austin, Texas. ....	1923
DALE, MRS. C. FRANKLIN, 625 Cote St. Antoine Road, Westmount, Que., Can. ....	1926
DALES, MRS. MARIE, 14, 24th St., Sioux City, Iowa ....	1924
DALEY, MRS. EDWIN W., Olivera, Ulster Co., N. Y. ....	1925
DALEY, MISS MARY WOOD, Darling P. O., Delaware Co., Pa. ....	1920
DANE, MRS. ERNEST B., Chestnut Hill, Mass. ....	1912
DANFORTH, STUART T., College of Agriculture, Mayaguez, P. R. ....	1916
DARLINGTON, P. J., JR., 84 Corey Road, Brookline, Mass. ....	1923
DAVENPORT, MRS. ELIZABETH B., 15 Green St., Brattleboro, Vt. ....	1898
DAVIDSON, DR. A. M., 856 Palmerston Ave., Winnipeg, Man., Can. ....	1922
DAVIDSON, MRS. GAYLORD, 2407 Lake Place, Minneapolis, Minn. ....	1912
DAVIDSON, W. M., Gov't. Testing Sta., Vienna, Va. ....	1927
DAVIS, MISS BERTHA E., 69 Cypress St., Brookline 46, Mass. ....	1920
DAVIS, HENRY W., Seaside Hotel, Ventnor, Atlantic City, N. J. ....	1922
DAVIS, JOHN M., 227 Clark St., Eureka, Calif. ....	1920
DAVIS, R. N., Everhart Museum, Scranton, Pa. ....	1920
DAVIS, TONY, 425 North Allen St., Marshall, Mo. ....	1927
DAY, CHESTER SESSIONS, 16 Browne St., Brookline 47, Mass. ....	1897
DEAN, R. H., 720 Quintard Ave., Anniston, Ala. ....	1913
DEANE, GEORGE CLEMENT, 80 Sparks St., Cambridge, Mass. ....	1899
DEARBORN, SAMUEL S., 77 Summer St., Room 911, Boston, Mass. ....	1919
DECK, RAYMOND S., 583 Riverside Drive, New York, N. Y. ....	1927
DEFREMERY, HERMAN, Box 25, Berkeley, Calif. ....	1927
DEGARIS, DR. CHARLES F., Johns Hopkins Univ., Baltimore, Md. ....	1923
DEIGMAN, H. G., Pyne Hall, Princeton, N. J. ....	1925
DELOACH, R. J. H., 5541 Dorchester St., Chicago, Ill. ....	1910
DELURY, DR. RALPH E., Dominion Observatory, Ottawa, Ont., Can. ....	1920
DEMILLE, JOHN B., Rosevale, Albert Co., N. B., Canada. ....	1922
DENLEY, CHARLES F., 2123 18th St., N. W., Washington, D. C. ....	1927
DENMEAD, TALBOTT, Biological Survey, Washington, D. C. ....	1923
DENNY, MISS MARTHA, 111 High St., Brookline, Mass. ....	1924
DENSMORE, MISS MABEL, 910 4th St., Red Wing, Minn. ....	1910
DERBY, DR. RICHARD, Oyster Bay, L. I., N. Y. ....	1898
DESCHAUENSE, R. M., 1213 Spruce St., Philadelphia, Pa. ....	1925
DEXTER, PROF. JOHN SMITH, Univ. Porto Rico, Rio Piedras, P. R. ....	1919
DICKENS, MISS ELIZABETH, Block Island, R. I. ....	1921
DILLE, FREDERICK M., Valentine, Nebr. ....	1892
DINGLE, EDWARD VON S., Huger, S. C. ....	1920
DINGMAN, RUSSELL G., Highland Crescent, York Mills, Ont., Can. ....	1926
DIXON, FREDERICK J., 111 Elm Ave., Hackensack, N. J. ....	1891
DOAK, WILLIAM C., 134 W. Coulter St., Germantown, Philadelphia, Pa. ....	1927
DONALDSON, JOHN J., Greenville, Pa. ....	1925
DONHO, M. T., The Balfour, 2000 16th St., N. W., Washington, D. C. ....	1925

DOOLITTLE, E. A., Box 44, Painesville, Ohio.....	1921
DORSEY, GEORGE A., 324 West John Wesley Ave., College Park, Ga. .	1926
DuBOIS, A. Dawes, 4033 Linden Hills Blvd., Minneapolis, Minn. (1905)	1918
DuFOUR, MISS LAURA E., 1524 Boyd Ave., Racine, Wis.....	1924
DuMONT, PHILIP A., 1 East 104th St., New York, N. Y.....	1927
DUDLEY, MRS. SARAH H., Lyman School Branch, Berlin, Mass.....	1924
DUER, HARRY ELDON, 519 Schofield Bldg., Cleveland, Ohio.....	1921
DUFRESNE, FRANK, Fairbanks, Alaska.....	1924
DUNBAR, MISS LULA, Rt. 1, Elkhorn, Wis.....	1918
DUNKELBERGER, H. W., P. O. Box 6, Flourtown, Montgomery Co., Pa.	1923
DUNN, JOHN W. G., 1033 Lincoln St., St. Paul, Minn.....	1923
DURFEE, OWEN, 727 Madison St., Fall River, Mass.....	1887
DURFEE, MRS. OWEN, 727 Madison St., Fall River, Mass.....	1923
DYE, HAROLD G., 18 Conklin Ave., Rochester, N. Y.....	1921
DYKE, ARTHUR CURTIS, 205 Summer St., Bridgewater, Mass.....	1902
EANES, ROBERT H., 401 Park Place, Austin, Texas.....	1923
EARL, THOMAS M., Rt. 2, Box 94, Xenia, Ohio.....	1921
EARLE, OSBORNE, 17 Bates St., Cambridge, Mass.....	1919
EASTWOOD, S. K., Elberon Apts., Bloomfield Sta., Pittsburgh, Pa. .	1925
EATON, MISS MARY S., 8 Monument St., Concord, Mass.....	1909
EATON, SCOTT HARRISON, Box 653, Lawrenceville, Ill.....	1912
EATON, WARREN FRANCIS, c/o Wellington, Sears & Co., 66 Worth St., New York, N. Y.....	1921
EDDY, J. H., 2834 Argyle Road, Birmingham, Ala.....	1927
EDMONDS, JOHN, Royal Ontario Museum, Toronto, Ont., Can.....	1926
**EDSON, JOHN M., Marietta Road, Bellingham, Wash.....	1886
EDSON, WM. L. G., Highland Park, Rochester, N. Y.....	1916
EDWARDS, D. KEMP, 280 Mariposa Ave., Rockcliffe, Ottawa, Ont.	1926
EHEIM, J. M., Hutchinson, Minn.....	1927
EHINGER, DR. CLYDE E., 730 Grand Ave., Keokuk, Iowa.....	1904
EIFRIG, PROF. C. W. Gustave, 504 Monroe Ave., Oak Park, Ill....	1901
EKBLAW, WALTER ELMER, Box 341, North Grafton, Mass.....	1910
ELLIOTT, MRS. JANE SHIELDS, 2900 Q St., N. W., Washington, D. C.	1921
ELLIS, C. W. H., 1939 Biltmore St., N. W., Washington, D. C.....	1927
ELLIS, MRS. ELLA HAINES, 910 Grattan St., Los Angeles, Calif.....	1924
*ELLIS, RALPH, JR., 2420 Ridge Road, Berkeley, Calif.....	1924
ELLIS, RAYMOND B., Aetna St., Connellsville, Pa.....	1926
ELROD, MRS. WALTER DEW., Box 103, Okmulgee, Okla.....	1924
EMERSON, W. OTTO, Route 1, Box 39, Hayward, Calif.....	1916
EMILIO, S. GILBERT, 156 Hobart St., Danvers, Mass.....	1922
EMLEN, ARTHUR COPE, "Awbury," Germantown, Philadelphia, Pa. .	1921
EMLEN, JOHN T. JR., 36 W. School Lane, Germantown, Phila., Pa. .	1925
*EMMET, COL. ROBERT T., 48 Washington Ave., Schenectady, N. Y. .	1926
ENO, HENRY LANE, Princeton, N. J.....	1918
ERICHSEN, W. J., 2311 Barnard St., Savannah, Ga.....	1919
ERSKINE, RICHARD, Wenonah, N. J.....	1926

ESTEN, SIDNEY R., R. R. 3, Pendleton, Ind.....	1925
EVANS, DR. EVAN M., 550 Park Ave., New York, N. Y.....	1916
EVANS, VICTOR J., Victor Bldg., Washington, D. C.....	1927
EVERETT, E. A., 200 10th St., Waseca, Minn.....	1925
FAGAN, CHAS. L., Rt. 2, Box 58, Rahway, N. J.....	1922
FAIRMAN, MISS MARIAN, 4744 Kenwood Ave., Chicago, Ill.....	1920
FARGO, WILLIAM G., 506 Union St., Jackson, Mich.....	1923
FARLEY, FRANK L., Camrose, Alberta, Can.....	1920
FARLEY, JOHN M., JR., 46 S. Broadway, White Plains, N. Y.....	1922
FAUVEL, BERTRAM A., 321 McLeod St., Ottawa, Ont., Can.....	1926
FAY, S. PRESCOTT, 2 Otis Place, Boston, Mass.....	1907
*FEARING, GEO. R., 168 Beacon St., Boston, Mass.....	1924
FELGER, ALVA HOWARD, North High School, Denver, Colo.....	1898
FELL, MISS EMMA TREGO, Holicong, Bucks Co., Pa.....	1903
FERGUSON, HENRY L., 250 Park Ave., New York, N. Y.....	1920
*FERGUSON, HOMER L., Newport News Ship Bldg., Newport News, Va.....	1926
FESER, MRS. ESTELLA C., 840 W. 66th St., Chicago, Ill.....	1925
FESMIRE, A. R., 24 D. Tongshan Road, Shanghai, China.....	1927
FIELD, MRS. MARSHALL, 38 Wall St., New York, N. Y.....	1926
FIELD, WM. L. W., Milton Acad., Milton, Mass.....	1920
FINPROCK, CHARLES M., 3186 Oak Road, Cleveland Heights, Ohio.....	1925
FISHER, MISS ELIZABETH WILSON, Ambler, Pa.....	1896
FISHER, DR. G. CLYDE, American Mus. Nat. Hist., New York, N. Y.....	1908
FISHER, PROF. RICHARD T., Petersham, Mass.....	1924
FITZPATRICK, A. L., 2408 Colonial Ave., Waco, Texas.....	1927
FLETCHER, L. B., 54 Cotswold Road, Brookline, Mass.....	1921
FLETCHER, MRS. MARY E., Proctorsville, Vt.....	1898
FLOYD, CHAS. BENTON, 454 Wolcott St., Auburndale, Mass.....	1916
FLOYD, J. L., 1009 Geo. D. Harter Bank Bldg., Canton, Ohio.....	1921
FOLEY, MISS MARY C., 1218 Fairmont St. N. W., Washington, D. C.....	1927
FOLLETT, RICHARD E., 2134 Dime Bank Bldg., Detroit, Mich.....	1926
FOOT, DR. NATHAN CHANDLER, 3560 Interwood Place, Clifton, Cincinnati, Ohio.....	1916
FORBES, RALPH E., 328 Adams St., Milton, Mass.....	1917
FORD, EDWARD R., 317 Washington St., S. E., Grand Rapids, Mich.....	1920
FORD, FRANCIS, 114 Allyn St., Holyoke, Mass.....	1927
FORD, MISS LOUISE PETIGRU, "The Heights," Aiken, S. C.....	1919
*FOSTER, FRANCIS A., Edgartown, Mass.....	1918
*FOSTER, FRANK B., P. O. Box 87, Haverford, Pa.....	1916
FOSTER, DR. G. S., 967 Elm St., Manchester, N. H.....	1921
*FOSTER, JOHN H., P. O. Box H, Haverford, Pa.....	1927
FOWLER, FREDERICK HALL, 221 Kingsley Ave., Palo Alto, Calif.....	1892
FOWLER, HENRY W., Acad. Nat. Sciences, Philadelphia, Pa.....	1898
FOX, MISS CAROLINE A., Center Road, Hillsboro, N. H.....	1924
FOX, MISS JENNIE E., Sparkhill, Rockland Co., N. Y.....	1925
FRANCKE, MRS. L. J., Glen Head, L. I., N. Y.....	1924



FRANKEL, MRS. HENRY, 301 Tonawanda Drive, Des Moines, Iowa .	1925
FRASER, DONALD, Johnstown, N. Y. ....	1902
FRAZAR, MRS. M. ABBOTT, 84 Abbottsford Road, Brookline, Mass. .	1925
FRENCH, MRS. A. J., R. F. D. 1, Carlton, Ore. ....	1921
FRENCH, DR. CHAS. E., 62 Holyrood Ave., Lowell, Mass. ....	1923
FRENCH, Charles, H., 950 Washington St., Canton, Mass. ....	1904
FRENCH, MRS. CHAS. H., 950 Washington St., Canton, Mass. ....	1908
FRENCH, DANIEL C., 12 W. 8th St., New York, N. Y. ....	1922
FRENCH, MRS. MENA V., Box 171, Wayland, Mass. ....	1923
*FREY, MRS. EDITH K., 814 3rd St., Jackson, Mich. ....	1923
FRICKE, R. L., Carnegie Museum, Pittsburgh, Pa. ....	1927
FRIEDMAN, RALPH, 32 Garden Place, Brooklyn, N. Y. ....	1921
FRIEDRICH, GEORGE W., 3029 Belmont Ave., Chicago, Ill. ....	1925
FROST, ALLEN, 9 Holmes St., Poughkeepsie, N. Y. ....	1919
FRY, MRS. GLADYS GORDON, 66 Eagle Rock Way, Montclair, N. J. .	1925
*FUGUET, HOWARD, 560 Bullitt Bldg., Philadelphia, Pa. ....	1919
FUGUET, STEPHEN, Devon, Pa. ....	1927
FULLER, MRS. ANNIE L., Brick House, Hancock, N. H. ....	1922
FULLER, ARTHUR B., 2717 Euclid Ave., Cleveland, Ohio. ....	1922
FULLER, HENRY C., 3704 Huntington St., Washington, D. C. ....	1916
FUNK, MRS. A. B., 649 Harwood Drive, Des Moines, Iowa. ....	1924
GANDER, FRANK F., P. O. Box 395, East San Diego, Calif. ....	1926
GANIER, ALBERT F., 2507 Ashwood Ave., Nashville, Tenn. ....	1917
GARBE, ROLLIN, 307 Runnymede Rd., Toronto, Ont., Can. ....	1926
GARDINER, CHARLES BARNES, 175 W. Main St., Norwalk, Ohio. ....	1903
GARDNER, ASTON COLEBROOK, c/o Westminster Bank, Rowlands Road, West Worthing, Sussex, England. ....	1919
GARDNER, CAPT. LEON L., Sternberg Hospital, Manila, P. I. ....	1924
GARDNER, MRS. W. H., Bucksport, Maine. ....	1920
GARLAND, MISS CAROLINE H., 65 Silver St., Dover, N. H. ....	1924
*GAUNTLETT, FREDERICK J., 3225 18th St., N. W., Washington, D. C. .	1925
GAY, KARL E., 2483 Lower Manoa Road, Honolulu, T. H. ....	1926
GEDDES, JOHN M., 331 High St., Williamsport, Pa. ....	1924
GEIST, R. M., 811 Euclaire Ave., Bexley, Columbus, Ohio. ....	1923
GIANINI, CHAS. A., Poland, N. Y. ....	1911
GIFFORD, PAUL C., 73 Whittier Ave., Olneyville, R. I. ....	1921
GIGNOUX, CLAUDE, 73 Tunnel Road, Berkeley, Calif. ....	1921
GILBERT, MRS. F. M., Walpole, N. H. ....	1919
GILLESPIE, JOHN A., 313 Sharp Ave., Glenolden, Pa. ....	1923
GILLESPIE, MRS. J. A., 313 Sharp Ave., Glenolden, Pa. ....	1924
GILLIAM, ROBERT A., 1123 Cedar Hill Ave., Sta. A., Dallas, Tex. ....	1920
GILLIN, JAMES R., Ambler, Pa. ....	1921
GILLIS, FRANK, Anoka, Minn. ....	1922
GILMAN, M. FRENCH, Banning, Calif. ....	1907
GILMORE, MRS. A. E., 2215 E. Admiral Blvd., Tulsa, Okla. ....	1927
GILMORE, ALBERT F., 84 Garfield St., Watertown, Mass. ....	1924

GLADDING, MRS. JOHN R., Thompson, Conn.....	1912
GLEASON, MRS. C. H., 700 Madison Ave., S. E., Grand Rapids, Mich..	1917
GLENN, DONALD, Box 243, Franklin, Pa.....	1923
GLOYD, HOWARD K., Dept. Zool., State Agric. Coll., Corvallis, Oregon.....	1920
GOELITZ, WALTER A., 22 Nunda Boulevard, Rochester, N. Y.....	1916
GOLDSMITH, GLENN W., 123 E. Washington St., Colorado Springs, Colo.....	1926
GOOD, PROF. HENRY G., Alabama Polytechnic Inst., Auburn, Ala...	1925
GOOD, NEWELL E., Y. M. C. A., Washington, D. C.....	1927
GOODHART, L. McCORMICK, Langley Park, Hyattsville, Md.....	1927
GOODRICH, MISS JULIET T., Land o' Lakes, Vilas County, Wis.....	1904
GORDON, HARRY E., 307 Laburnum Crescent, Rochester, N. Y.....	1911
GORDON, KENNETH, Dept. Zool., State Agric. Coll., Corvallis, Oregon	1924
GORDON, ROBERT B., 2281 Indianola Ave., Columbus, Ohio.....	1923
GORDON, SETH E., 1218 Greenleaf St., Evanston, Ill.....	1924
GORMLEY, A. LIGUORI, 79 John St., N., Arnprior, Ont. Can.....	1918
GORST, CHARLES C., 28 Beauford Road, Boston 30, Mass.....	1916
GOULD, JOSEPH E., 320 Springfield Ave., Campostella Heights, Norfolk, Va.....	1889
GOWANS, MISS ETHEL, 308 S. Lincoln St., Kent, Ohio.....	1921
GRANGE, WALLACE B., Ladysmith, Wis.....	1920
GRANGER, WALTER W., Amer. Mus. Nat. Hist., New York, N. Y...	1891
GRANT, CLEVELAND P., Field Museum, Chicago, Ill.....	1924
GRANT, E. R., Hotel Roosevelt, Washington, D. C.....	1927
GRANT, MARTIN L., 92 Morgan St., Oberlin, Ohio.....	1926
GRANT, WM. W., 816 S. Main St., Geneva, N. Y.....	1910
GRASETT, F. G., 535 Green Bay Road, Glencoe, Ill.....	1923
GRASS, ARTHUR M., 339 B. St. N. E., Linton, Indiana.....	1927
GRAVES, MRS. CHARLES B., 43 Granite St., New London, Conn.....	1905
GRAY, A. E., 1021 Manzana Court, Albuquerque, N. M.....	1923
GRAY, GEORGE M., Box 89, Woods Hole, Mass.....	1916
GRAY, GEORGE W., Greenvale Farm, Poughkeepsie, N. Y.....	1920
GREELEY, JOHN R., 241 Linden Ave., Ithaca, N. Y.....	1925
GREEN, PROF. GEORGE R., 511 South Atherton St., State College, Pa..	1927
*GREEN, MORRIS MILLER, 39 Wyoming Ave., Ardmore, Pa.....	1921
GREENE, EARLE R., 208 Grant Bldg., Atlanta, Ga.....	1921
GREENOUGH, HENRY VOSE, 39 Worthington Road, Brookline, Mass...	1901
GREENWOOD, CHRISTOPHER, Elnora, Alberta, Can.....	1926
GREGORY, REV. C. E., Box 215, Morganton, N. C.....	1922
GREGORY, STEPHEN S., JR., Box N, Winnetka, Ill.....	1906
GREVE, FREDERICK J., 526 Grant Ave., Brooklyn, N. Y.....	1926
GRIFFITHS, MISS JANET R., 289 East Park Ave., Highland Park, Ill...	1926
GRIMES, SAMUEL A., 3615 Mayflower St., Jacksonville, Fla.....	1925
GROMME, OWEN J., Public Museum, Milwaukee, Wis.....	1924
GUNTHERP, DR. HORACE, University Station, Tucson, Ariz.....	1919



HACHISUKA, HON. M., Mita Shiba, Tokyo, Japan.....	1927
HADELER, E. W., 520 S. State St., Painesville, Lake Co., Ohio.....	1920
HADLEY, ALDEN H., Nat. Assn. Audubon Societies, 1974 Broadway, New York, N. Y.....	1906
HAGNER, DR. FRANCIS R., 1824 19th St., N. W., Washington, D. C.....	1926
HAHN, WM. JR., 403 Durst Ave., Greenwood, S. C.....	1925
HAILE, H. PENNINGTON, Hanover, N. H.....	1919
HAINES, ROBERT L., 54 E. Main St., Moorestown, N. J.....	1924
HALDEMAN, MISS DORIS W., E Mt. Airy Ave., Philadelphia, Pa....	1927
HALE, EZRA A., 218 Edgerton St., Rochester, N. Y.....	1927
HALES, B. J., Normal School, Brandon, Man., Can.....	1927
HALL, E. RAYMOND, Mus. Vert. Zool., Univ. of Cal., Berkeley, Calif.....	1922
HALLINAN, THOMAS, 212 Madison Ave., Paterson, N. J.....	1919
HALLINEN, JOSEPH E., Rt. 1., Cooperton, Okla.....	1919
HALLOWELL, FRANK W., 252 Summer St., Boston, Mass.....	1927
HALVERSON, DR. HAROLD M., 312 Pearl St., Yankton, S. Dak.....	1924
HAMILL, MRS. LAFAYETTE C., 477 Grove St., Worcester, Mass.....	1924
HAMILTON, WM. JOHN JR., Dept. Biology, Cornell Univ., Ithaca, N. Y.....	1924
HAMMOND, DR. ROLAND, 41 Boylston Ave., Providence, R. I.....	1924
HANDLEY, CHAS. O., 403 E. Jefferson St., Thomasville, Ga.....	1916
HANDSAKER, RALPH, Colo, Iowa.....	1922
HANKINSON, THOS. L., 96 Oakwood Ave., Ypsilanti, Mich.....	1897
HANNA, WILSON CREAL, 141 East F. St., Colton, Calif.....	1919
HARDING, MRS. R. B., 94 Westbourne Terrace, Brookline, Mass.....	1922
HARING, MRS. INEZ M., Woodland, Ulster Co., N. Y.....	1921
HARKIN, HON. JAMES B., Commr. Canadian Nat. Parks, Ottawa, Can.....	1921
HARRINGTON, MRS. A. B., Lincoln, Mass.....	1919
HARRINGTON, DR. PAUL, 813 Bathurst St., Toronto, Ont., Can.....	1922
*HARRIS, WM. P., 15410 Windmill Point Drive, Grosse Pointe Parks, Mich.....	1925
*HARRISON, GEO. L., JR., 1520 Locust St., Philadelphia, Pa.....	1919
HARROLD, C. G., 183 Notre Dame East, Winnipeg, Man., Can.....	1923
HART, CECIL, 132 N. 3rd St., Montebello, Los Angeles Co., Calif.....	1921
HART, MALCOLM D., Ashland, Va.....	1924
HART, W. S., Box 1185 Montreal, Que., Can.....	1926
HARTER, SAMUEL G., 3848 3rd St., San Diego, Calif.....	1926
HARTLEY, GEO. INNESS, Southampton, L. I., N. Y.....	1919
HARVEY, JOHN L., Mercantile Bldg., Waltham, Mass.....	1916
HASBROUCK, HENRY C., 895 West End Ave., New York, N. Y.....	1920
*HASKELL, MISS SADIA, 3828 30th St., Mt. Rainier, Md.....	1916
HASTINGS, WALTER E., 310 Maple St., Howell, Mich.....	1921
HATHAWAY, ALTON H., 25 Oakland St., Lexington, Mass.....	1921
HATHAWAY, MRS. E. L., Spring St., Rt. 1, W. Bridgewater, Mass.....	1920
HATHAWAY, H. S., Norwood and Thorn Aves, South Auburn, R. I.....	1897
HAULTAIN, C. F., Ardfree Fur Farm, Rt. 1, Campbelloft, Ont., Can.....	1923
HAUTHAWAY, CLARENCE L., 346 Congress St., Boston, Mass.....	1927

HAVEMEYER, H. O., Mahwah, N. J.....	1893
HAVEMEYER, H. O., JR., Mahwah, N. J.....	1919
HAVEN, HERBERT M. W., 500 Forest Ave., Portland, Maine.....	1920
HAWARTH, MISS M. M. ALICE, Mosscroft, Edgeworth, Sewickley, Pa.....	1925
Haweis, STEPHEN, Nat. Zoological Park, Washington, D. C.....	1927
HAYES, MRS. EDWIN A., 466 Elm St., New Haven, Conn.....	1927
HAYES, SAMUEL P., JR., South Hadley, Mass.....	1924
HEARSEY, EDWARD, 21 Davis Ave., East Orange, N. J.....	1927
HEGEMAN, MRS. CHAS. S., 16 Wilde Place, Montclair, N. J.....	1923
HEGNER, FRANK, A., 513 Hill St., Sewickley, Pa.....	1924
HEILFURTH, FRITZ, 4 a. A. S. 22, Colegio Aleman, Guatemala City, Guatemala.....	1926
HEILNER, VAN CAMPEN, Spring Lake Beach, N. J.....	1925
*HELME, ARTHUR H., Miller Place, N. Y.....	1888
HELMUTH, WM. TOD, 3RD, 182 W. 58th St., New York, N. Y.....	1923
HEMPHILL, ASHTON ERASTUS, 598 Dwight St., Holyoke, Mass.....	1919
HENDERSON, A. D., Belvedere, Alberta, Can.....	1924
HENDERSON, JUNIUS, 1305 Euclid Ave., Boulder, Colo.....	1903
HENDERSON, WALTER C., 8 Magnolia Parkway, Chevy Chase, Md.....	1917
HENSHAW, SAMUEL, 28 Fayerweather St., Cambridge, Mass.....	1924
HERMAN, DR. WILLIAM C., 19 West 7th St., Cincinnati, Ohio.....	1921
*HERRICK, HAROLD, 95 Maiden Lane, New York, N. Y.....	1905
HERRICK, NEWBOLD L., 25 Cedar St., New York, N. Y.....	1913
HERRICK, N. LAWRENCE, Cedarhurst, N. Y.....	1917
HIATT, BENJAMIN, C. 119 E. Montgomery Ave., Ardmore, Pa.....	1925
HIBBERT, MRS. H., 17 Parkside Place, Cote de Neiges Road, Montreal, Que., Can.....	1926
HILDRETH, MISS ELLEN E., 6 Linnaean St., Cambridge, Mass.....	1922
HILL, MRS. THOMAS R., 4011 Baltimore Ave., Philadelphia, Pa.....	1903
HILLMER, DAVIS B., 453 Canfield Ave. W., Detroit, Mich.....	1926
HINCKLEY, GEO. LYMAN, Old Colony Trust Co., P. O. Box 363, Boston, Mass.....	1912
HINE, ASHLEY, 8131 Euclid Ave., Chicago, Ill.....	1922
*HINE, PROF. JAMES STEWART, Ohio State Univ., Columbus, Ohio.....	1899
HITCHCOCK, FRANK H., Metropolitan Club, 1 East 60th St., New York, N. Y.....	1921
HIX, GEORGE E., 337 72nd St., Brooklyn, N. Y.....	1904
HOFFMAN, IRVIN N., 1513 30th St. N. W., Washington, D. C.....	1924
HOFFMAN, PAUL WM., 1573 12th St., Milwaukee, Wis.....	1924
HOLLAND, HAROLD MAY, Galesburg, Ill.....	1910
HOLLAND, DR. WILLIAM J., Carnegie Museum, Pittsburgh, Pa.....	1899
HOLLISTER, G. B., 4 E. 5th St., Corning, N. Y.....	1919
HOLLISTER, WARREN D., Delavan, Wis.....	1901
HOLLOMAN, MRS. REED, Miraflores, Santa Fe, N. M.....	1924
HOLMAN, JOHN P., Fairfield, Conn.....	1922
HOLMAN, RALPH H., 181 Harvard St., Brookline, Mass.....	1907

HOLMES, CHARLES F., Dollard, Sask., Can.....	1927
HOMER, FRED L., 270 N. Craig St., Pittsburgh, Pa.....	1924
HONYWILL, ALBERT W., Jr., 17400 Wildemere Ave., Detroit, Mich.....	1907
HOPKINS, GEORGE I., 841 Beech St., Manchester, N. H.....	1922
HORSEY, RICHARD E., Highland P'k, Reservoir Ave., Rochester, N. Y.....	1919
HORSFALL, ROBERT BRUCE, c/o Nature Magazine, 1214 16th St., N. W., Washington, D. C.....	1905
HOUGHTON, CLARENCE, 533 Washington Ave., Albany, N. Y.....	1920
HOWATT, DR. G. A., 1922 F. St., Eureka, Calif.....	1924
HOWE, CLIFTON D., Univ. Toronto, Toronto, Ont., Can.....	1921
HOWITT, HENRY, 52 Lyon Ave., Guelph, Ont., Can.....	1924
HOWLAND, HENRY R., Library Bldg., Buffalo, N. Y.....	1924
HOWLAND, R. H., 164 Wildwood Ave., Upper Montclair, N. J.....	1902
HUBBARD, MRS. FRANK D., 81 Barnett St., New Haven, Conn.....	1923
HUBBARD, PROF. MARIAN E., Hallowell House, Wellesley 81, Mass.....	1916
HUBER, MRS. WHARTON, 225 St. Marks Square, Philadelphia, Pa.....	1926
HUEY, L. M., Nat. Hist. Mus., Balboa Park, San Diego, Calif.....	1920
HUFF, PROF. N. L., 1219 7th St. S. E., Minneapolis, Minn.....	1924
HUGHES, GEO. T., Box 153, Plainfield, N. J.....	1919
HUGHES, DR. W. E., 3945 Chestnut St., Philadelphia, Pa.....	1920
HULL, ARCHIE V., 423 West Forest St., Brigham City, Utah.....	1926
HUNN, JOHN T. SHARPLESS, 1218 Prospect Ave., Plainfield, N. J.....	1895
HUNT, CHRESWELL JOHN, 810 S. 18th Ave., Maywood, Ill.....	1919
HUNT, MISS LUCY O., 185 Beacon St., Hartford, Conn.....	1919
HUNTER, MRS. KATHARINE U., Cupola Farm, West Claremont, N. H.....	1923
HURD, MISS FRANCES A., 43 West Ave., S. Norwalk, Conn.....	1919
HUTCHISON, MRS. A. K., 286 Sherbrooke St. W., Montreal, Can.....	1927
HYDE, A. S., Vivarium Bldg., Wright & Healy Sts., Champaign, Ill.....	1921
HYDE, MRS. S. E., Mayfield, Idaho.....	1918
HYDE, T. B., Am. Mus. Nat. Hist., New York, N. Y.....	1925
HYSLOP, SAMUEL, 42 Bellevue St., Newton, Mass.....	1919
IJAMS, H. P., R. F. D. 9, Knoxville, Tenn.....	1922
INGALLS, MRS. L. O., 51 Westford Circle, Springfield, Mass.....	1925
**INGERSOLL, ALBERT M., 908 F St., San Diego, Calif.....	1885
INGERSOLL, R. Sturgis, 1035 Land Title Bldg., Philadelphia, Pa.....	1925
ISHAM, CHAS. B., 909 Valley Rd., Upper Montclair, N. J.....	1891
JACKSON, DR. HARTLEY H. T., Biological Survey, Washington, D. C.....	1910
JACKSON, RALPH W., R. D. 1, Box 70, Cambridge, Md.....	1918
JACKSON, ROBERT L., Box 112, Ohio, Ill.....	1924
JACOBS, MISS MARTHA L., 404 S. Washington St., Waynesburg, Pa.....	1927
JACOBS, WM. F., 404 So. Washington St., Waynesburg, Pa.....	1924
JACOT, E. C., Box 462, Prescott, Ariz.....	1923
JAMES, MRS. A. O., 302 Professional Bldg., Richmond, Va.....	1925
JAMES, NORMAN, P. O. Drawer D2, Baltimore, Md.....	1913
JANVRIN, DR. E. R. P., 38 East 85th St., New York, N. Y.....	1919
JAQUES, F. L., Amer. Mus. Nat. Hist., New York, N. Y.....	1924

JAY, WILLIAM, 12 Westview St., Mt. Airy, Philadelphia, Pa.	1921
JENKS, CHAS. W., Bedford, Mass.	1912
JENNINGS, DR. GEO. H., Jewett City, Conn.	1918
JENNINGS, RICHARD D., 227 Harrison St., East Orange, N. J.	1913
JENNISON, FRANK J., Box 939, Marquette, Mich.	1925
JENSEN, J. K., Canyon Road, Sante Fe, N. M.	1912
JENSEN, JESSE P., Box 364, Dassel, Minn.	1926
*JOHNSON, CHARLES ALFRED, 1030 15th St., Denver, Colo.	1927
JOHNSON, PROF. CHAS. E., College of Forestry, Syracuse, N. Y.	1919
JOHNSON, REV. CHARLES P., 53 University Place, Princeton, N. J.	1927
JOHNSON, MRS. GRACE P., Museum Nat. Hist., Springfield, Mass.	1908
JOHNSTON, I. H., South Hills, Charleston, W. Va.	1922
JONES, HAROLD C., 352 W. College St., Oberlin, Ohio.	1924
JONES, DR. LOMBARD CARTER, Falmouth, Mass.	1917
JONES, NELSON T., Royal Ontario Mus., Toronto, Ont., Can.	1925
JONES, S. PAUL, 509 West Ave. North, Waukesha, Wis.	1920
JONES, WILLIAM F., Norway, Maine.	1918
JORDAN, A. H. B., Lowell, Wash.	1888
JUMP, MRS. EDWIN R., 97 Oakleigh Road, Newton, Mass.	1910
JUNG, CLARENCE S., 553 Prospect Ave., Milwaukee, Wis.	1921
KAHL, P. H. I., Carnegie Museum, Pittsburgh, Pa.	1924
KAHMAN, KARL W., Rt. 2, Hayward, Wis.	1925
KANE, MRS. SUSAN MARY, Vaughn, Wash.	1919
KEALY, MISS LULU, 14 Blackburn Ave., Ottawa, Ont., Can.	1926
KEAYS, JAMES EDWARD, 328 St. George St., London, Ont., Can.	1899
KEE, HUNTER, 36 9th Ave., Marlinton, W. Va.	1920
KEESLER, RAY L., Box 147, Forestville, Butler Co., Pa.	1924
KELLEY, NORMAN P., 44 Cranbrooke Ave., Toronto, Ont., Can.	1927
KELLOGG, RALPH T., Silver City, N. M.	1913
KELLY, ORVAL E., P. O. Box 28, Warkworth, Ont., Can.	1926
KELLY, WILLIAM N., Terminal City Club, Vancouver, B. C., Can.	1927
KELSO, DR. JOHN E. H., Edgewood, Lower Arrow Lake, B. C., Can.	1915
KEMSIES, EMERSON, 92 Morgan St., Oberlin, Ohio.	1927
KENDEIGH, S. CHARLES, 136 Woodland Ave., Oberlin, Ohio.	1923
KENNAN, MISS RUTH R., 311 West Liberty, Medina, Ohio.	1922
KENNEDY, DR. HARRIS, Readville 37, Mass.	1916
*KENNEDY, HARRY H., Box 710, Reno, Nev.	1920
KENNEDY, H. N., 6541 Grand River Ave., Detroit, Mich.	1924
KENNEDY, MRS. R. A., The Westminster, Ottawa, Ont., Can.	1926
KENT, DUANE E., 39 Moore Place, Rutland, Vt.	1913
KENT, EDWARD G., 9 Highland Ave., Madison, N. J.	1919
KENT, EDWIN C., 80 William St., New York, N. Y.	1907
KEPNER, MRS. C. M., R. F. D. 2, Randallstown, Md.	1922
KERMODE, FRANCIS, Provincial Museum, Victoria, B. C., Can.	1926
KERN, SAMUEL B., 662 Main St., Slatington, Pa.	1925
KERR, DR. WM., Ridotto Block, Bay City, Mich.	1926

KERSHNER, CLAUDE H., 438 W. Bringham St., Germantown, Philadelphia, Pa.	1925
KEYES, MRS. C. F., 2225 Lake of Isles Blvd., Minneapolis, Minn.	1922
*KIDDER, NATHANIEL T., Milton, Mass.	1906
KIEFNER, C. H., 2115 Second Nat. Bank Bldg., Houston, Texas.	1926
KILGORE, WILLIAM, JR., Zool. Mus., Univ. Minn., Minneapolis, Minn.	1906
KILGUS, J. FRANK, JR., 422 High St., Williamsport, Pa.	1922
KING, MISS GRACE W., 11 Heath Hill, Brookline, Mass.	1924
KING, IRVING J., Collins Center, Erie Co., N. Y.	1924
KING, LEROY, 15 William St., New York, N. Y.	1901
KIRKHAM, MRS. JAMES W., 275 Maple St., Springfield, Mass.	1904
*KIRKHAM, STANTON D., 152 Howell St., Canandaigua, N. Y.	1910
KIRKHAM, WM. B., 100 Mill St., Springfield, Mass.	1922
KIRKPATRICK, DONALD, 710 Clay Ave., Scranton, Pa.	1926
KIRKPATRICK, HARRY C., 1166 Water St., Meadville, Pa.	1921
KIRKWOOD, FRANK C., R. F. D. 3, Monkton, Md.	1892
*KIRN, ALBERT J. B., Box 157 Somerset, Texas.	1918
KITTREDGE, JOSEPH, JR., Lake States Forest Exp. Sta., Univ. Farm, St. Paul, Minn.	1910
KLOSEMAN, MISS J. E., Beal Hall, 20 Charlesgate W., Boston, Mass.	1909
*KLOTZ, CHAS. D., 722 Prospect Ave., Winnetka, Ill.	1923
KNAEBEL, ERNEST, 3707 Morrison St., Washington, D. C.	1906
KNAPPEN, MISS PHOEBE M., 2925 Tilden St., N.W., Washington, D.C.	1924
KNAPPEN, MRS. T. M., 2925 Tilden St., N. W., Washington, D. C.	1926
KNAUZ, MISS MARIE B., 1217 Trevanion Ave., Regent Sq., Pittsburgh, Pa.	1924
*KNICKERBOCKER, CHAS. K., 410 N. Michigan Ave., Chicago, Ill.	1922
KNOLHOFF, FERDINAND WILLIAM, Argyle Park, Babylon, L. I., N. Y.	1890
KOBBE, FREDERICK W., 1155 Park Ave., New York, N. Y.	1921
KOMAREK, EDWIN V., Chicago Academy of Sciences, Chicago, Ill.	1927
KRETZMANN, DR. P. E., 801 DeMun Ave., St. Louis, Mo.	1913
KUBICHEK, W. F., Coe College, Cedar Rapids, Iowa.	1919
KUERZI, J. F., 978 Woodycrest Ave., Bronx, New York, N. Y.	1925
KUSER, ANTHONY R., Bernardsville, N. J.	1908
KUSER, MRS. ANTHONY R., Bernardsville, N. J.	1910
KUSER, JOHN DRYDEN, Bernardsville, N. J.	1910
KUTCHIN, DR. VICTOR, Green Lake, Wis.	1922
LABARTHE, JULES, c/o Georgian Manganese Co., Tchiatouri, Georgia, U.S.S.R.	1920
LABRIE, WILLIE, Kamouraska (Moulin), P. Q., Can.	1927
LACEY, MILTON S., 875 Main St., Bridgeport, Conn.	1925
LADOW, STANLEY V., 56 W. 12th St., New York, N. Y.	1913
LAFRANCE, P. A., Laconia, N. H.	1926
LAFRANCHISE, MISS MARY L. Y., 47 Sherbrooke Ave., Hull, Que., Can.	1921
LAING, HAMILTON M., Comox, B. C., Can.	1917
LAING, MISS MARY E., Granville, N. Y.	1927



LAMB, CHAS. R., 161 Summer St., Boston, Mass.	1912
LAMB, C. C., Museum Vert. Zool., Univ. Calif., Berkeley, Calif.	1926
LANCASHIRE, MRS. JAMES HENRY, 11 East 69th St., New York, N. Y.	1909
LANCELEY, W. H., 23 Elmdale Ave., Ottawa, Ont., Can.	1926
LANDI, FLORINDO, 2261 First Ave., New York, N. Y.	1925
LANG, HARRY M., 1538 Rockland Ave., Beechwood, Pittsburgh, Pa.	1924
LANG, HERBERT, Amer. Mus. Nat. Hist., New York, N. Y.	1907
LANGDON, ROY M., 329 Elizabeth St., Fort Collins, Colo.	1918
LANGELIER, GUS. A., Cap Rouge, Que., Canada.	1923
LANGSTROTH, JAMES H., "Bin D," Silver City, N. M.	1924
LANO, ALBERT, 120 N. Block St., Fayetteville, Ark.	(1889)1919
LARRABEE, PROF. AUSTIN P., Yankton, College Yankton, S. Dak.	1918
LASTRETO, C. B., 260 California St., San Francisco, Calif.	1919
LATHAM, ROY, Orient, L. I., N. Y.	1916
LAUFFER, MISS SOPHIE L., 86 Greene Ave., Brooklyn, N. Y.	1925
LAUGHLIN, J. A., 318 E. Gordon St., Marshall, Mo.	1919
LAURENT, PHILIP, 31 E. Mt. Airy Ave., Philadelphia, Pa.	1902
LAWRENCE, A. G., City Health Dept., Winnipeg, Man., Can.	1920
LAWRENCE, R. B., 411 Westmoreland Ave., Houston, Texas (1883)	1923
LAWSON, DR. E. H., Ganges, B. C., Canada.	1927
LAWSON, RALPH, 88 Washington Sq. East, Salem, Mass.	1917
LAZEAR, J. M., 922 S. Negley Ave., Pittsburgh, Pa.	1922
LEACH, FRANK A., Diablo, Calif.	1921
LEARNED, MISS AGNES M., Wilkins St., Hudson, Mass.	1920
LEE, HENRY E., Box 495, Rapid City, S. D.	1925
LEFEVRE, RUFUS H., Westerlo, Albany Co., N. Y.	1927
LEFFINGWELL, DANA J., Science Hall, Washington State Coll., Pull- man, Wash.	1919
LEIGHTON, ALEXANDER H., 11 Alexander St., Princeton, N. J.	1927
LEIGHTON, MRS. A. O., Cold Spring, Rosemont, Pa.	1927
LEISTER, CLAUDE W., McGraw Hall, Ithaca, N. Y.	1916
LERMOND, N. W., Thomaston, Maine.	1921
LETL, FRANK H., Field Mus., Chicago, Ill.	1925
*LEVEY, MRS. WILLIAM M., 58 Davis Ave., Brookline, Mass.	1915
LEWIS, HARRISON F., Can. Nat. Parks, Ottawa, Ont., Can.	1912
LEWIS, MRS. HERMAN E., 180 Grove St., Haverhill, Mass.	1912
LEWIS, JOHN B., Box 167, Lawrenceville, Va.	1924
LEWIS, M. G., County Agent, Lexington, Va.	1924
LEWY, DR. ALFRED, 2051 E. 72d Place, Chicago, Ill.	1922
L'HOMMEDIEU, J. F., Gen. Sec'y, Y. M. C. A., Thomasville, Ga.	1924
LINDSAY, ROBERT V., 61 Brookfield St., Toronto, Ont., Can.	1927
LINGS, GEO. H., The Grange, Cheadle, Cheshire, England.	1913
LINSDALE, JEAN M., Mus. Vert. Zool., Berkeley, Calif.	1922
LIPPINCOTT, JOSEPH W., 227 South 6th St., Philadelphia, Pa.	1926
LITTLE, MRS. EFFIE G., R. F. D. 1, Lowell, Ind.	1922
LITTLE, LUTHER, 1400 Wayne Ave., S. Pasadena, Calif.	1913



LIVINGSTON, PHILIP A., P. O. Box 62, Wayne, Pa.....	1927
LLOYD, MRS. WILMOT, 285 Mariposa Ave., Rockcliffe Park, Ottawa, Ont., Can.....	1925
LOCKE, DR. EDWIN A., 311 Beacon St., Boston, Mass.....	1920
LOCKWOOD, DEAN P., 6 College Circle, Haverford, Pa.....	1921
LODGE, FRED S., 423 S. Stone Ave., La Grange, Ill.....	1922
LOESCH FRANK J., 1540 Otis Bldg., 10 S. LaSalle St., Chicago, Ill.....	1925
LOGSDON, MRS. M. I., 6030 Greenwood Ave., Chicago, Ill.....	1927
LONG, HARRY V., 260 Clarendon St., Boston, Mass.....	1920
LONGSTREET, ROBERT J., 610 Braddock Ave., Daytona Beach, Fla.....	1923
LOOMIS, LEE J., 202 E. Union St., Union, N. Y.....	1925
LORD, FREDERIC P., 39 College St., Hanover, N. H.....	1922
LORING, J. ALDEN, Owego, Tioga Co., N. Y.....	1917
LOTHROP, DR. OLIVER A., 101 Beacon St., Boston, Mass.....	1920
LOVERIDGE, A., Mus. Comp. Zool., Cambridge, Mass.....	1924
LOW, ETHELBERG, I., 256 Broadway, New York, N. Y.....	1907
LOW, W. J., 16 Highland Ave., Montreal, Que., Can.....	1923
LOWE, JOHN N., Specular St., Marquette, Mich.....	1925
LOWNES, ALBERT E., P. O. Box 1531, Providence, R. I.....	1924
LUCE, MISS ANNA B., R. F. D. 1, New Britain, Conn.....	1927
LUM, EDWARD H., Chatham, N. J.....	1904
LUNN, MISS LULU M., 724 Villa St., Racine, Wis.....	1920
LUNN, MISS MARGARET A., Apt. 804, 1808 Conn. Ave., Washington, D. C.....	1919
LYON, DR. MARCUS W., JR., 214 La Porte Ave., South Bend, Ind.....	1922
MACCOY, C. V., 1 Lenox Hall, 1213 Beacon St., Brookline, Mass.....	1920
MACGOWAN, W. LEROY, 3212 Park St., Jacksonville, Fla.....	1924
MACKAYE, JAMES, 6 College St., Hanover, N. H.....	1921
MACLEAY, CHARLES R., Sayabec, P. Q., Can.....	1927
MACLOGHLIN, MRS. F. E., 43 Inglewood Drive, Hamilton, Ont., Can.....	(1923)1926
MACMILLAN, WM. TORBERT, 23 Pilgrim Road, Boston, Mass.....	1924
MACREYNOLDS, GEORGE, 76 E. State St., Doylestown, Pa.....	1917
MACLAY, MARK W., JR., 44 Wall St., New York, N. Y.....	1905
MADDOCK, MISS EMELINE, Stoneleigh Court, Philadelphia, Pa.....	1897
MADDOX, GEORGE A., 1837 Wyoming Ave., N. W., Washington, D. C.....	1926
MADISON, HAROLD L., 2289 Grand View Ave., Cleveland Heights, Ohio.....	1912
MAGEE, M. J., 603 South St., Sault Ste. Marie, Mich.....	1919
MAHER, J. E., 323 Pacific Ave., Jersey City, N. J.....	1902
MAIN, JOHN S., 2210 Van Hise Ave., Madison, Wis.....	1926
MALLEIS, HARRY, Halstead, Kans.....	1924
MANN, DR. WM. M., Nat. Zool. Park, Washington, D. C.....	1925
MARBLE, RICHARD M., Woodstock, Vt.....	1907
MARBURGER, CLIFFORD, Denver, Pa.....	1923
MARCOTTE, REV. LEON, St. Charles Seminary, Sherbrooke, Que., Can.....	1921
MARDEN, AARON, Eagle Id., South Harpswell, Maine.....	1924

MARKS, EDWARD SIDNEY, 655 Kearney Ave., Arlington, N. J. ....	1915
MARSH, MISS E. L., Peasemars Farm, Clarksburg, Ont., Can. ....	1926
MARSHALL, ALFRED, Montrose, Baldwin Co., Ala. ....	1916
*MARSHALL, MRS. ELLA M. O., New Salem, Mass. ....	1912
MARTIN, FRED I., Rt. 1, Box 58, Manchester, N. H. ....	1921
MASTERS, WAYNE W., Box 54, Eveston, Ind. ....	1927
MATHEWS, F. SCHUYLER, 17 Frost St., Cambridge, Mass. ....	1917
MATHEWS, FRANK P., 49 West 52d St., New York, N. Y. ....	1923
MATLACK, BENNETT K., 67 Cottage Ave., Bridgeton, N. J. ....	1924
MAY, DR. JOHN B., South Main St., Cohasset, Mass. ....	(1916)1922
MAYAND, NOEL, 1 rue de Bordeaux, Saumur, Maine et Loire, France. ....	1927
MAYFIELD, DR. GEORGE R., Kissam Hall, Nashville, Tenn. ....	1917
MAYNARD, CHAS. J., 457 Crafts St., W. Newton, Mass. ....	1921
MAYNARD, DR. HERBERT E., 464 Commonwealth Ave., Boston, Mass. ....	1921
McCABE, T. T., Barkerville, B. C., Can. ....	1920
McCALL, W. W., Haverford, Pa. ....	1921
McCANN, HORACE D., Valley Road, Paoli, Pa. ....	1923
McCLINTOCK, NORMAN, 504 Amberson Ave., Pittsburgh, Pa. ....	1900
McCOOK, PHILIP J., 413 E. 57th St., New York, N. Y. ....	1895
McCRACKEN, MRS. J. W., 1524 Myrtle St., Scranton, Pa. ....	1926
McCRIMMON, A. R., Montrose, Colo. ....	1924
MCDONALD, N. J., 201 Price Ave., Narbeth, Pa. ....	1927
McDOUGALL, NEIL A., Summerside, P. E. I., Can. ....	1927
McGAHEY, MISS PEARL H., Canadian National Parks, Ottawa, Can. ....	1926
McGEE, W. E., Route 4, Nampa, Idaho. ....	1926
McILHENNY, EDWARD AVERY, Avery Island, La. ....	1894
McINTOSH, FRANKLIN G., 1520 Liberty St., Franklin, Pa. ....	1925
McKENNY, MISS M., Am. Mus. Nat. Hist., New York, N. Y. ....	1926
McKONE, MRS. MARGARET A., R. R. 4, London, Ont., Can. ....	1927
McLAIN, ROBERT B., P. O. Box 132, Hollywood Sta., Los Angeles, Calif. ....	1893
McLELLAN, MISS MARY E., Calif. Acad. Sci., San Francisco, Calif. ....	1920
McLENNAN, JAMES P., Route 4, Marigold Lodge, Holland, Mich. ....	1924
McMILLAN, MRS. GILBERT N., 4640 Delafield Ave., Riverdale on Hudson, New York, N. Y. ....	1902
McMULLEN, T. E., 933 N. 5th St., Camden, N. J. ....	1920
McNEIL, DR. CHAS. A., 1123 W. 7th St., Sedalia, Mo. ....	1919
McNEIL, GEORGE M., 195 Lincoln St., Winthrop, Mass. ....	1920
MEAD, MRS. E. M., 51 E. 78th St., New York, N. Y. ....	1904
MEAD, LYLE G., 709 N. Pine Ave., Austin Sta., Chicago, Ill. ....	1921
MEDSGER, OLIVER P., 9 Columbia Ave., Arlington, N. J. ....	1919
MEGREW, ALDEN F., 265 Clarendon St., Boston, Mass. ....	1923
MELCHER, MRS. C. W., 49 N. Washington St., Hinsdale, Ill. ....	1922
MELLEN, DR. ELEANOR, 291 Lake Ave., Newton Highlands, Mass. ....	1920
MENGEL, G. HENRY, 739 Madison Ave., Reading, Pa. ....	1913
MENNINGER, DR. WM. C., Mulvane Bldg., Topeka, Kans. ....	1919
MEREDITH, REX, 121 Monckton Ave., Quebec, Can. ....	1927

MERRIAM, DR. HENRY F., 165 Orange Heights Ave., W. Orange, N. J.	1905
MERRILL, MRS. C. H. S., 95 Hinckley Road, Milton, Mass.	1924
MERRILL, D. E., 5th and Sycamore Sts., Rogers, Ark.	1913
MERRIMAN, R. OWEN, 101 Clergy St. W., Kingston, Ont., Can.	1920
*MERSHON, W. B., Saginaw, Mich.	1905
MESSER, DON V., Huntington, Mass.	1924
METCALF, JESSE, 130 East 67th St., New York, N. Y.	1926
METCALF, DR. Z. P., State College Station, Raleigh, N. C.	1913
MEYER, MAJOR G. RALPH, C. A. C., c/o Adjutant General, U. S. A., Washington, D. C.	1913
*MEYER, MISS HELOISE, Lenox, Mass.	1913
MICHENER, HAROLD, 418 Elm Ave., Pasadena, Calif.	1926
MIDDLETON, R. J., Marshall St. and Whitehall Road, Jeffersonville, Pa.	1920
MILLER, MISS BERTHA S., Capstone Farm, R. 3, Kingston, N. Y.	1915
MILLER, CHARLES, R. R. 1, London, Ark.	1927
MILLER, ISAAC P., 111 South 4th St., Philadelphia, Pa.	1925
MILLER, MISS MARY MANN, 5928 Hayes Ave., Los Angeles, Calif.	1921
MILLS, HERBERT H., Jenkintown Manor, Jenkintown, Pa.	1927
MILLS, WIER R., Pierson, Iowa.	1920
MINER, JACK, Kingsville, Ont., Can.	1927
MINER, LEO D., 2910 44th Place, N. W., Washington, D. C.	1913
MIRICK, HENRY D., 1809 19th St., N. W., Washington, D. C.	1925
MITCHELL, MISS CATHARINE A., 144 Fairbank Road, Riverside, Ill.	1911
MITCHELL, H. HEDLEY, Provincial Mus., Regina, Sask., Can.	1918
MITCHELL, W. G., c/o Price Bros. Ltd., Quebec, Can.	1926
MITCHELL, DR. WALTON I., Paonia, Delta Co., Colo.	1893
MITSCH, GRANT E., Brownsville, Ore.	1926
MOFFATT, E. E., 146 Oak St., Winsted, Conn.	1926
MOFFITT, JAMES, 1879 Broadway, San Francisco, Calif.	1926
MONK, H. C., Avoca Apts., Nashville, Tenn.	1921
MOODY, A. J., c/o Aetna Life Ins. Co., Hartford, Conn.	1918
MOON, WILBUR D., 46 Maple St., East Lynn, Mass.	1926
MOORE, MRS. NETTIE L. P., 941 Starkweather Ave., Plymouth, Mich.	1925
MOORHEAD, H. R., 12 East 31st St., New York, N. Y.	1926
**MORCOM, G. FREAN, 243 North Coronado St., Los Angeles, Calif.	1886
MORE, R. L., 1905 Wilbarger St., Vernon, Texas.	1921
MOREHOUSE, B. J., Forestby, Branchville, Conn.	1926
MOREY, MRS. LILLIAN D., Pinehurst Circle, Chevy Chase, Md.	1924
MORGAN, BRENT M., 224 11th St., S. W., Washington, D. C.	1919
*MORGAN, JOHN SAGE, 27 Circuit Road, Chestnut Hills, Mass.	1927
MORRELL, DR. ARCH HIRAM, 210 Maine Ave., Gardiner, Maine.	1923
MORRIS, MISS GRACE A., Eagle Rock, Pa.	1924
*MORRIS, DR. LEWIS R., 60 W. 58th St., New York, N. Y.	1923
MORRISON, ALVA, 100 Milk St., Boston, Mass.	1915
MORSE, FRANK E., 162 Boylston St., Boston, Mass.	1921
MORSE, GEO. W., 318 East 9th St., Tulsa, Okla.	1922

MORSE, HARRY GILMAN, Huron, Ohio.....	1912
MORSE, MISS MARGARETTE E., Viroqua, Wis. ....	1919
MORTON, FRED C., Savannah Electric & Power Co., Savannah, Ga. ....	1926
MOSELEY, PROF. EDWIN LINCOLN, Bowling Green, Ohio.....	1918
MOSHER, FRANKLIN H., 17 Highland Ave., Melrose Highlands, Mass.....	1905
MOTT, J. J., P. O. Box 1562, Winnipeg, Man., Can.....	1927
MOULTON, FRANCIS S., 23 Avon St., Cambridge, Mass.....	1926
MOULTON, HERBERT F., 12 School St., Ware, Mass.....	1920
MUELLER, ALFRED L., 5820 N. Kilborne Ave., Chicago, Ill.....	1927
MUELLER, WALTER J., 580 Beverly Road, Milwaukee, Wis.....	1923
MULLER, CARL L., 31 East 65th St., New York, N. Y.....	1925
MUNTER, COMDR. W. H., U. S. Cutter "Modoc," Wilmington, N. C.....	1927
MURIE, O. J., Jackson, Wyo.....	1913
MURPHY, MRS. GRACE E. B., 45 Oriole Ave., Bronxville, N. Y.....	1919
MURPHY, MISS LOUISE, 9 Summerhill Ave., Montreal, Que., Can.....	1926
MURRAY, EDGAR A., 2703 Guoin St., Detroit, Mich.....	1919
MURRAY, FRANK F., Box 606, Titusville, Pa.....	1922
MURRAY, DR. GILBERT D., 528 Madison Ave., Scranton, Pa.....	1925
MUSSELMAN, T. E., 124 S. 24th St., Quincy, Ill.....	1922
MYERS, EVERETT C., 25400 Euclid Ave., Euclid, Ohio.....	1924
MYERS, MRS. HARRIET W., 311 N. Ave. 66, Los Angeles, Calif.....	1906
MYERS, MISS LUCY F., 64 Market St., Poughkeepsie, N. Y.....	1898
MYERS, ORD, 216th St. and 9th Ave., New York, N. Y.....	1922
NAUMBURG, WALTER W., 14 Wall St., New York, N. Y.....	1923
*NEELY, JAMES C., 135 High St., Brookline, Mass.....	1919
NEFF, JOHNSON A., Neff Orchards, Marionville, Mo.....	1919
NEFF, W. G., 26 Wells Ave., Brantford, Ont., Can.....	1926
NEILSON, JAMES A., Wheatland, Wyo.....	1923
NELSON, MISS THEODORA, Brooklyn Hunter College, 66 Court St., Brooklyn, N. Y.....	1927
NETTING, GRAHAM, Carnegie Museum, Pittsburgh, Pa.....	1925
NEWBEGIN, EDWARD KING, 62 Sparks St., Cambridge, Mass.....	1924
NEWBERRY, W. F., 233 Broadway, New York, N. Y.....	1920
NEWCOMB, C. A., JR., Rt. 3, Pontiac, Mich.....	1920
NEWELL, MRS. H. S., Board of Trade Bldg., Duluth, Minn.....	1926
NICE, MRS. MARGARET M., 156 W. Patterson Ave., Columbus, Ohio.....	1920
NICHOLS, L. NELSON, N. Y. Public Library, New York, N. Y.....	1917
NICHOLS, RODMAN A., 27 Broad St., Salem, Mass.....	1919
NICHOLSON, DONALD J., P. O. Box 631, Orlando, Fla.....	1925
NININGER, PROF. H. H., 759 E. Euclid St., McPherson, Kans.....	1920
NOKES, DR. I. D., 1120 Rives Strong Bldg., Los Angeles, Calif.....	1915
NORRIS, EDWARD, 301 W. Springfield Ave., Philadelphia, Pa.....	1916
NORRIS, J. PARKER, JR., 2122 Pine St., Philadelphia, Pa.....	1904
NORRIS, ROY, Route B., Richmond, Ind.....	1925
O'BRIEN, JOHN E., JR., 225 E. 44th St., Savannah, Ga.....	1926
*O'CONOR, JOHN CHRISTOPHER, 24 E. 33rd St., New York, N. Y.....	1921

ODELL, THEODORE T., 328 Pultney St., Geneva, N. Y.....	1926
OEHSER, PAUL H., Biological Survey, Washington, D. C.....	1925
OGDEN, DR. HENRY VINING, 141 Wisconsin St., Milwaukee, Wis....	1897
O'LEARY, A. L., 1033 Lawrence St., N. E., Washington, D. C.....	1926
OLENCHAK, THOMAS R., 815 Brook St., Scranton, Pa.....	1927
ORMSBY, MRS. OLIVER S., 5756 Blackstone Ave., Chicago, Ill.....	1925
ORTEGA, JAMES L., Costa Mesa, Calif.....	1923
OSBORN, HARRY, 3241 St. John St., Kansas City, Mo.....	1927
OSBORN, PROF. HENRY F., Am. Mus. Nat. Hist., New York, N. Y....	1919
OSBORNE, ARTHUR A., 183 Lowell St., Peabody, Mass.....	1912
OSLER, H. S., 1 Rosedale Road, Toronto, Ont., Can.....	1920
OTIS, MISS OLIVE, 81 Front St., Exeter, N. H.....	1926
OVER, WILLIAM H., 125 Harvard St. N., Vermillion, S. Dak.....	1921
*OWEN, MISS JULIETTE AMELIA, 306 N. 9th St., St. Joseph, Mo.....	1897
PACARD, WINTHROP, 1442 Washington St., Canton, Mass.....	1917
PAFF, WM. ALFRED, 916 Paxinosa Ave., Easton, Pa.....	1927
**PAINE, AUGUSTUS G., JR., 31 E. 69th St., New York, N. Y.....	1886
PAINE, JOHN B., Weston, Mass.....	1922
PAINTER, KENYON V., 3240 Fairmount Blvd., Cleveland, Ohio.....	1920
*PALEN, F. P., 233 Broadway, New York, N. Y.....	1926
*PALMER, MISS E. D., 1741 S. Harvard Blvd., Los Angeles, Calif....	1918
PALMER, R. H., 207 Hawthorne St., Palo Alto, Calif.....	1916
PALMER, DR. SAMUEL C., Swarthmore College, Swarthmore, Pa....	1899
PALMER, MRS. T. S., 1939 Biltmore St., N. W., Washington, D. C....	1918
PANGBURN, CLIFFORD H., Chappaqua, Westchester Co., N. Y.....	1907
PARDEE, DR. LUCIUS C., 30 N. Michigan Ave., Chicago, Ill.....	1926
*PARKER, EDWARD LUDLOW, Nashawtuc Road, Concord, Mass....	1916
PARKER, HARRY C., Box 94, Stillwell, Okla.....	1927
PARKER, HERBERT, South Lancaster, Mass.....	1920
PARMENTER, HENRY E., First National Bank, Santa Barbara, Calif..	1924
PATCH, DR. EDITH M., College Road, Orono, Maine.....	1921
PATTEN, DR. STEPHEN K., 141 Milk St., Boston, Mass.....	1920
PAUL, LUCIUS H., 424 Carter St., Rochester, N. Y.....	1908
PAUL, DR. R. D., 1358 E. 47th St., Chicago, Ill.....	1927
PEABODY, REV. P. B., 2011 Park Ave., Topeka, Kans.....	1903
PEAKE, ARTHUR L., Nanaimo, B. C., Can.....	1927
PEARSE, SPENCER, Ravenscrag, Sask., Can.....	1926
PEARSE, THEED, P. O. Box 158, Courtenay, Vancouver Id., B. C., Can.	1926
PEASE, MISS FLORENCE M., Box 265, Conway, Mass.....	1922
PELLEW, MISS MARION J., Box 455, Aiken, S. C.....	1919
PEMBERTON, JOHN ROY, 525 N. Palm Drive, Beverly Hills, Calif....	1918
PENNINGTON, L. H., State College of Forestry, Syracuse, N. Y....	1927
PEPPER, DR. WM., Melrose Park, Philadelphia, Pa.....	1911
PERINE, KEBLE B., Jefferson Co. Board of Health, 4th Ave. and 19th St. N., Birmingham, Ala.....	1917
*PERKINS, DR. ANNE E., Gowanda State Hospital, Helmuth, N. Y....	1917

PERKINS, DR. EDW. H., Box 52, Waterville, Maine.....	1920
PERKINS, DR. GEO. H., Univ. of Vt., Burlington, Vt.....	1912
PERKINS, SAMUEL E., 3rd, 701 Inland Bank Bldg., Indianapolis, Ind.....	1923
PERRY, GEO. L., 68 Thurston St., Winter Hill, Somerville, Mass.....	1923
PERRY, J. ELMER, 627 West 3rd St., Erie, Pa.....	1924
PERRYGO, W. M., U. S. Nat. Museum, Washington, D. C.....	1927
PETER, JULIUS C., Detroit Trust Co., Detroit, Mich.....	1921
PETERS, ALBERT S., Donnybrook, N. Dak.....	1908
PETERS, HAROLD S., 363 W. 9th Ave., Columbus, Ohio.....	1924
PETERS, WM. Y., 143 Bay State Road, Boston, Mass.....	1925
PETERSON, ALFRED, Box 211, Pipestone, Minn.....	1920
PETRIE, DR. RAYMOND C., 5 West Main St., Johnstown, N. Y.....	1925
PEYTON, LAWRENCE G., Fillmore, Ventura Co., Calif.....	1924
PHelps, FRANK M., 130 Cedar St., Elyria, Ohio.....	1912
PHelps, MRS. J. W., Box 158, Northfield, Mass.....	1899
*PHILIPP, PHILIP B., 220 Broadway, New York, N. Y.....	1907
PHILLIPS, ALEXANDER H., 54 Hodge Road, Princeton, N. J.....	1891
PHILLIPS, CHAS. LINCOLN, 5 West Weir St., Taunton, Mass.....	1912
*PHILLIPS, JOHN M., 2227 Jane St., Pittsburgh, Pa.....	1920
PICKENS, ANDREW L., 202 Grove St., Greenville, S. C.....	1925
PICKWELL, GAYLE B., Natural Science Dept., State Teachers Coll., San Jose, Calif.....	1924
PIERCE, WRIGHT McEWEN, Box 343, Claremont, Calif.....	1918
PIGGOT, JOHN W., Bridgetown, N. S., Can.....	1927
*PIKE, EUGENE ROCKWELL, 191 East Walton Place, Chicago, Ill.....	1926
PILQUIST, G. E., Dardanelle, Ark.....	1927
*PINCHOT, HON. GIFFORD, 1615 Rhode Island Ave., Wash., D. C.....	1910
PIRNIE, MILES D., McGraw Hall, Ithaca, N. Y.....	1919
PLATH, KARL, 2847 Giddings St., Chicago, Ill.....	1925
PLATT, HON. EDMUND, 2339 Ashmead Pl., N. W., Washington, D. C.....	1917
POE, MISS MARGARETTA, Earl Court, St. Paul & Preston Sts., Balti- more, Md.....	1899
POMEROY, F. E., Dept. Biology, Bates College, Lewiston, Maine.....	1920
POOLE, EARL L., Public Museum, Reading, Pa.....	1916
POPENOE, CHARLES H., Bureau Entomology, Dept. Agr., Washington, D. C.....	1927
PORTER, EDGAR F., R. F. D. 2, Athol, Mass.....	1922
PORTER, JAMES V., Box 394, Glenwood, Minn.....	1926
PORTER, LOUIS H., Noroton Hill, Stamford, Conn.....	1893
PORTER, WILLARD B., 5 Lee St., Salem, Mass.....	1922
POST, WILLIAM S., 101 Park Ave., New York, N. Y.....	1911
POTTER, MISS JESSICA A., 1118 Santee St., Los Angeles, Calif.....	1924
POTTER, JULIAN K., 437 Park Ave., Collingswood, N. J.....	1921
POTTER, LAWRENCE B., Gower Ranch, East End, Sask., Can.....	1919
POTTER, L. HENRY, R. F. D. 2, West Rutland, Vt.....	1922
POTTS, F. A., Fortuna, Porto Rico.....	1922



POTTS, THOMAS C., East Erie Ave. & D St., Philadelphia, Pa. ....	1923
POUGH, RICHARD H., 4 Lenox Place, St. Louis, Mo. ....	1922
PRAEGER, WILLIAM E., Kalamazoo College, Kalamazoo, Mich. ....	1892
PRATT, GEO. D., 26 Broadway, New York, N. Y. ....	1917
PRENTISS, REV. WM. C., Plainfield, Conn. ....	1921
PRESCOTT, MRS. S. C., 249 Tappan St., Brookline, Mass. ....	1922
PRICE, JOHN HENRY, Crown W Ranch, Knowlton, Mont. ....	1906
PRICE, DR. LIGON, Dunmore, W. Va. ....	1913
PRIEST, CAPT. C. D., Mashumba's P. O., Inoro, Marandella, S. Rhodesia, S. Africa. ....	1927
PRIEST, GEO. H., 33 North Ash St., Brockton, Mass. ....	1922
PRILL, DR. A. G., Scio, Oregon. ....	1921
PROCTOR, GEORGE N., 35 Congress St., Boston, Mass. ....	1919
PURDIE, MISS EVELYN, 383 Harvard St., Cambridge, Mass. ....	1921
PURDY, WILLIAM B., Milford, Oakland, Co., Mich. ....	1921
QUARLES, EMMET AUGUSTUS, 139 E. 7th St., Plainfield, N. J. ....	1918
QUATTLEBAUM, REV. W. D., 387 Prospect St., East Orange, N. J. ....	1924
QUILLIN, ROY W., 422 W. King's Highway, San Antonio, Texas. ....	1920
QUINCY, JOSIAH H., 37 Stratford St., Boston 32, Mass. ....	1922
RACEY, KENNETH, 3262 First Ave., W., Vancouver, B. C., Can. ....	1921
RAMSAY, MRS. A. F., 326 Brock Ave. N., Montreal West, Can. ....	1927
RAND, AUSTIN L., McGraw Hall, Ithaca, N. Y. ....	1927
RANSOM, WEBSTER H., 708 W. 20th Ave., Spokane, Wash. ....	1927
RAPP, F. W., Vicksburg, Mich. ....	1922
REA, DR. PAUL M., 2717 Euclid Ave., Cleveland, Ohio. ....	1912
REAGH, DR. ARTHUR LINCOLN, 39 Maple St., West Roxbury, Mass. ....	1896
REDICK, LEONARD L., Newington Junction, Conn. ....	1924
REDINGTON, PAUL G., Falls Church, Va. ....	1927
REED, MRS. C. I., 2635 Reagan St., Dallas, Texas. ....	1920
REED, MRS. CHAS. K., 11 State St., Worcester, Mass. ....	1925
REED, MISS CLARA EVERETT, Brookfield, Mass. ....	1919
REED, MONTAGUE, Apt. 8, 5980 Park Ave., Montreal, Que., Can. ....	1921
REESE, MRS. ROBERT M., 517 Cameron St., Alexandria, Va. ....	1920
REGAR, G. BERTRAM, 434 Vernon Road, Noble Vista, Jenkintown, Pa. ....	1923
REGAR, H. SEVERN, 1400 DeKalb St., Norristown, Pa. ....	1916
REHN, JAMES A. G., Acad. Nat. Sciences, Logan Sq., Philadelphia, Pa. ....	1901
REID, EARL D., U. S. Nat. Museum, Washington, D. C. ....	1927
REID, RUSSELL, 911 6th St., Bismarck, N. Dak. ....	1919
REIS, REV. JACOB A., JR., Kribi, Efulan, Cameroun, French West Africa. ....	1921
RHOADS, CHARLES J., 1531 Walnut St., Philadelphia, Pa. ....	1895
**RHOADS, SAMUEL N. 81 Haddon Ave., Haddonfield, N. J. ....	1885
RICE, JAMES HENRY, JR., Brick House Plantation, Wiggins, S. C. ....	1910
RICE, WARD J., 5250 N. Pennsylvania St., Indianapolis, Ind. ....	1913
RICH, MISS NELLIE V., 280 Whalley Ave., New Haven, Conn. ....	1923
RICH, WALDO L., Box 221, Saratoga Springs, N. Y. ....	1921

RICHARDS, MISS HARRIET E., 36 Longwood Ave., Brookline, Mass.	1900
RICHARDS, MISS RUTH, Clifton Sta., Fairfax Co., Va.	1921
RICHARDSON, FREDERICK L. W., JR., Charles River, Mass.	1921
RICHARDSON, JENNESS, 305 Walnut St., S. E., Minneapolis, Minn.	1920
RICHARDSON, RUSSELL JR., Newton, Bucks Co., Pa.	1924
RICHARDSON, W. D., 4215 Prairie Ave., Chicago, Ill.	1917
*RICHARDSON, MRS. W. D., 4215 Prairie Ave., Chicago, Ill.	1925
RICHARDSON, DR. WYMAN, 229 Dudley Road, Newton Centre, Mass.	1920
RIDGWAY, JOHN L., 501 Fairmount St., Glendale, Calif.	1890
**RIKER, CLARENCE B., 432 Scotland Road, South Orange, N. J.	1885
RISHEL, JOHN B., 1390 South Josephine St., Denver, Colo.	1922
ROBB, WALLACE H., 80 Highland Ave., Belleville, Ont., Can.	1921
ROBBINS, CHARLES A., Onset, Mass.	1914
ROBBINS, REGINALD C., Northeast Harbor, Maine	1921
ROBBINS, MRS. REGINALD C., Northeast Harbor, Maine	1921
ROBERTS, H. RADCLYFFE, Villa Nova, Pa.	1924
ROBERTS, WM. F., 1514 H St., N. W., Washington, D. C.	1924
ROBERTSON, HOWARD, 157 S. Wilton Drive, Los Angeles, Calif.	1911
ROBERTSON, JOHN MCB., Box 121, Buena Park, Orange Co., Calif.	1920
ROBIE, WM. P. F., Gorham, Maine	1926
ROBINSON, ANTHONY W., 780 College Ave., Haverford, Pa.	1903
ROBINSON, MRS. L. K., 1130 S. Franklin St., Denver, Colo.	1919
ROBINSON, MISS MARY L., Teachers College, Kansas City, Mo.	1919
RODDA, MRS. J. LANDON, 242 Princeton Ave., Palmerton, Pa.	1925
ROGERS, MRS. A. L., 1413 Myrtle St., Scranton, Pa.	1926
ROGERS, MISS MABEL F., 11 Fourth Ave., Ottawa, Ont., Canada	1921
ROGERS, REV. WALLACE, 173 Hurt St., Atlanta, Ga.	1921
ROLLINS, HARRY L., 646 Washington St., Wellesley, Mass.	1924
ROOSEVELT, FRANKLIN DELANO, Hyde Park, N. Y.	1896
RORIMER, MRS. J. M., 1725 East 115th St., Cleveland, O.	1927
ROSE, FRANK H., Montana Nat. Bison Range, Moiese, Mont.	1927
ROSE, GEORGE C., 222 Front St., Mineola, N. Y.	1920
ROSIER, EUGENE, Petit Saconnex, Geneva, Switzerland	1927
ROSS, MISS EDNA G., Route 3, Pakenham, Ont., Can.	1927
ROSS, GEO. H., 23 West St., Rutland, Vt.	1904
ROSS, LAURENCE S., 510 E. Second St., Moorestown, N. J.	1925
ROSS, DR. LUCRETIVS H., 507 Main St., Bennington, Vt.	1912
ROSS, REUBEN J., 60 Broadway, New York, N. Y.	1922
ROSS, ROLAND CASE, 388 Dearborn St., Pasadena, Calif.	1925
ROTH, EDGAR A., 4635 Lilbourne Ave., West View, Pittsburgh, Pa.	1925
ROTHROCK, BOYD P., 276 Briggs St., Harrisburg, Pa.	1925
RUGG, HAROLD GODDARD, Dartmouth College, Hanover, N. H.	1919
*RUMSEY, MRS. MARY HARRIMAN, Wheatley Hills, Westbury, L. I., N. Y.	1925
RUPPERT, FRANK C., 636 H. St., N. E., Washington, D. C.	1927
RUSSELL, JOHN W., 84 Joslin St., Providence, R. I.	1922

RUST, HENRY J., Coeur d'Alene, Idaho.....	1918
SAGE, DEWITT L., 580 Park Ave., New York, N. Y.....	1925
**SAGE, HENRY M., Menands Road, Albany, N. Y.....	1885
SAGE, MRS. MARY SEARL, 1974 Broadway, New York, N. Y.....	1919
SALOMONSEN, FINN, Slotsholmsgade 16, Copenhagen, Denmark....	1927
SAMPSON, W. B., 1005 N. San Joaquin St., Stockton, Calif.....	1922
SANBORN, COLIN C., Field Museum, Chicago, Ill.....	1911
*SANFORD, DR. LEONARD C., 216 Crown St., New Haven, Conn.....	1919
SANTENS, REMI H., Carnegie Museum, Pittsburgh, Pa.....	1918
SASS, HERBERT R., 23 Legare St., Charleston, S. C.....	1923
SATTERTHWAIT, MRS. A. F., 118 Waverly Place, Webster Groves, Mo..	1920
SAUNDERS, FREDERICK A., 10 Chauncy St., Cambridge 38, Mass....	1923
SAUNDERS, GEO., 305 East Tenth St., Oklahoma City, Okla.....	1925
SAVAGE, HENRY L., 131 Pyne Hall, Princeton, N. J.....	1926
SAVAGE, JAMES, 1048 Ellicott Sq., Buffalo, N. Y.....	1895
SAVAGE, S. O., Parkdale, Ashley Co., Ark.....	1922
SAVARY, WALTER B., Wareham, Mass.....	1922
SAVIN, WILLIAM M., 52 Broadway, New York, N. Y.....	1921
SAWYER, EDMUND JOSEPH, Yellowstone Park, Wyo.....	1922
SCHAEFER, OSCAR FREDERICK, 724 Woodbine St., Rochester, N. Y..	1916
SCHAFER, J. J., R. R. 2, Port Byron, Ill.....	1918
SCHANTZ, ORPHEUS M., 3219 Maple Ave., Berwyn, Ill.....	1919
SCHEAR, PROF. E. W. E., 107 W. Park St., Westerville, Ohio.....	1922
SHELL, JOHN W., 129 W. Sharpneck St., Mt. Airy, Philadelphia, Pa..	1923
SCHMIDT, EUGENE W., 494 Church St., New Britain, Conn.....	1927
SCHNEIDER, MRS. G. H., 4618 Kingswell Ave., Los Angeles, Calif....	1921
SCHOEDINGER, GEORGE R., JR., 78 Auburn Ave., Columbus, Ohio....	1926
SCHONNEGEL, JULIAN ELIOT, 92 Morningside Ave. E., New York, N.Y.	1918
SCHORGER, A. W., 2021 Kendall Ave., Madison, Wis.....	1913
SCHRENCK, DR. HERMANN VON, Tower Grove and Flad Aves., St. Louis, Mo.....	1919
SCHROEDER, MRS. ADELE PARROTT, Rt. 2, White River, S. Dak....	1920
SCHWARZ, HERBERT F., Am. Mus. Nat. Hist., New York, N. Y.....	1925
SCOATES, MRS. DAN, P. O. Box H., College Station, Texas.....	1927
SCOFIELD, JOHN K., 1511 30th St., N. W., Washington, D. C.....	1927
SCOTT, CHAS. H., JR., 715 Walnut St., Philadelphia, Pa.....	1926
SCOVILLE, GURDON T., Phillips Exeter Academy, Exeter, N. H....	1925
SCOVILLE, SAMUEL, JR., 1307 Penn Bldg., Philadelphia, Pa.....	1916
SEARS, MISS ANNIE L., 85 Mt. Vernon St., Boston, Mass.....	1924
SEARS, MRS. GEO. G., 426 Beacon St., Boston, Mass.....	1922
SEELEY, GEORGE H., Box 106, Stockbridge, Mass.....	1920
SEFTON, J. W., JR., Maryland Bldg., San Diego, Calif.....	1922
SEIPLE, STANLEY J., 293 Clinton St., Greenville, Pa.....	1927
*SEMPLE, JOHN B., Sewickley, Pa.....	1924
*SERPELL, GOLDSBOROUGH, Seaboard Nat. Bank, Norfolk, Va.....	1926
SERRILL, WILLIAM J., Haverford, Pa.....	1916

SHAVER, PROF. JESSE M., Peabody College, Nashville, Tenn.....	1924
*SHAW, HENRY S., 136 High St., Exeter, N. H.....	1916
SHAW, T. H., Dept. Biol., Tsing Hua College, Peking, China.....	1922
SHAW, PROF. WILLIAM T., 1023 College Ave., Redlands, Calif.....	1908
SHEA, PROF. DANIEL W., Catholic Univ. of Amer., Washington, D. C.....	1917
SHEARER, DR. AMON R., Mont Belvieu, Chambers Co., Texas.....	1905
SHELDON, CHARLES, 3022 P St., N. W., Washington, D. C.....	1911
SHELDON, H. E., 21 Norwood Ave., Norwalk, Ohio.....	1926
SHELLEY, LEWIS O., P. O. Box 9, East Westmoreland, N. H.....	1925
SHERRILL, WM. E., Haskell, Tex.....	1922
SHERWOOD, ROBERT C., 38 Vassar St., Springfield, Mass.....	1921
SHIPMAN, C. M., 114 Ridge Road, Willoughby, Ohio.....	1925
SHIRLEY, GARLAND L., Dayton, Va.....	1927
SHOEMAKER, CLARENCE R., 3116 P St., Washington, D. C.....	1910
SHOEMAKER, HENRY W., Room 409, 71 Broadway, New York, N. Y.....	1912
SHOFFNER, CHAS. P., The Hawthorne, Apt. 1, 5053 Walnut St., Philadelphia, Pa.....	1915
SHORE, ROBERT, Box 440, Indian Head, Sask., Can.....	1927
SILLIMAN, O. P., c/o Mitchell-Silliman Co., Salinas, Calif.....	1915
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SNYDER, WILL EDWIN, 309 DeClark St., Beaver Dam, Wis. ....	1895
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*'Louis Agassiz' Fuertes.*

# THE AUK:

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IN MEMORIAM: LOUIS AGASSIZ FUERTES  
1874-1927.

BY FRANK M. CHAPMAN.<sup>1</sup>

*(Plate I)*

LOUIS FUERTES became an Associate Member of the American Ornithologists' Union in 1891, when he was seventeen years old. He was made a Member in 1901, and his preeminence as a painter of birds was recognized by his election to Fellowship in 1912. He attended his first A. O. U. Congress in 1896 at Cambridge. During the remainder of his life he was absent from these annual reunions on only five occasions; and on four of these his absence was unavoidable. His name did not often appear on the program, but I am certain of your unanimous approval when I say that no other member of the Union contributed so much to the success of its meetings. His remarks on the papers presented by others, sometimes accompanied by rapid blackboard sketches, were original, pertinent and illuminating; his rendering of birds' songs, seemed to bring the birds themselves into the lecture hall. The drawing he usually contributed to our dinner card struck the keynote for an evening of good fellowship; while his after dinner addresses, with their combined humor and sentiment, increased our affection for the speaker and our feeling of comradeship with each other. And at all times, merely by the magic of his presence,

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<sup>1</sup> Read before the Forty-fifth Meeting of the American Ornithologists' Union, at Washington, D. C., November 15, 1927.

he diffused a sense of joyous well-being and good cheer; a reflection of his own fine, sweet nature.

Louis Agassiz Fuertes, so named because of his father's admiration for Louis Agassiz, was born at Ithaca, N. Y., February 7, 1874. He lost his life in a grade-crossing accident at Potter's Crossing, near Unadilla, N. Y., on August 22, 1927. His father, Estevan Antonio Fuertes, was born in San Juan, Porto Rico, a descendant of a prominent Spanish family. He was connected with Cornell University from 1873 to the day of his death in 1903, at which time he was director and dean of the school of engineering. His mother, Mary Stone Perry Fuertes, was born in Troy, New York, of English and Dutch ancestry. She is still living, together with his two brothers, James H. and Estevan A. Fuertes, and two sisters, Mrs. Sarah Fuertes Hitchcock and Miss Katherine Fuertes.

Fuertes lived all his life in the town of his birth and here, in 1904, he married Margaret F. Sumner, also of Ithaca, by whom, with two children, Louis Sumner and Mary, he is survived.

#### INHERENT TRAITS.

Love of birds as "the most eloquent expression of nature's beauty, joy and freedom," is the gift of every one who hears the call of the outdoor world. But that instinctive, inexplicable passion for birds which arouses an uncontrollable desire to know them intimately in their haunts and to make them part of our lives, and which overcomes every obstacle until in a measure, at least, this longing is gratified, is the heritage of the elect; and few have been more richly endowed than Louis Fuertes.

No known ancestor possessed those traits which marked him the born ornithologist; no brother or sister has exhibited them; no environmental influence accounts for them. We are certain only that Louis Fuertes showed an interest in birds at too early an age to leave any doubt of its innate spontaneity.

His mother's earliest recollection of her son's especial fondness for birds relates to the period when, as a very little boy, he violently resented the action of his playmates who intentionally annoyed him by making glaringly false associations of the parts of a set of 'sliced birds,' his favorite possession.

Even before he evinced a marked interest in birds he began to use a pencil, drawing at first domestic animals, but at the age of eight or nine inherent taste and talent had combined and his efforts to draw were focussed chiefly on birds. His sister Katherine writes that he was now "pretty expert with a sling-shot and long before he had learned to preserve birds' skins he would carry around birds he had shot until the carcasses or uncured skins had to be consigned to the kitchen stove. First he would cut off their wings and handle them with the utmost loving fingers arranging the webs of every feather in perfection."

James Fuertes recalls receiving a letter from his brother, Louis, about 1884, containing a "pretty good" picture of a Snowy Owl, and states that for two or three years he had then been making drawings of birds which had attracted attention.

Apparently from neither artist nor ornithologist did the boy receive assistance or encouragement. Stimulated only by his inherent desires, guided only by his developing talents, he continued to advance, and a brief, pencilled autobiographical sketch written in 1910 and recently found in his studio shows that at the age of fourteen he had definitely become a painter of birds. It reads: "About 1888, when 14 years old, L. A. F. made his first essay at painting a bird from the flesh in his boyhood's home at Ithaca, N. Y. It was a male Red Crossbill—the first that he had ever seen, and the strange coppery brown of its plumage, its unbelievably queer bill, its sturdy little figure all claimed something that had never before been fully awakened. So, to fasten these peculiar qualities in his mind, where they could be retained, he followed the method that first suggested itself, and which he has followed ever since—he drew and painted it to the best of his power. It was a clumsy thing, crudely painted, awkwardly drawn standing on one foot on a drab branch of impossible anatomy—but—it was a beginning. And certainly it was a wise one, for it resulted in the production of a life's interest for the boy, which could not be diverted."

It is clear, then, that Louis Fuertes was born both a bird-lover and an artist, and it was this rare combination that made him preeminent in his field. But his special qualifications for the study of bird-life did not end here. To a keen eye, which recorded deep

and indelible mental images of things seen, he added a sensitive, discriminating ear which received and retained equally accurate impressions of things heard. To the talent to reproduce birds' forms was added the gift to reproduce their notes, often with such accuracy that the birds themselves were deceived by his rendering of their songs. Fuertes was further endowed with a power and originality of expression which permitted him to describe graphically and eloquently the feelings aroused by the appearance, voice and habits of birds. At birth, therefore, he was potentially an Ornithologist, Artist, Musician and Writer. Was anyone ever more fully equipped to present to mankind the distinctive characteristics of birds?

Their forms, their songs, their rhythmic flight;  
Their manners, for the heart's delight.

#### TRAINING.

When did this rarely endowed boy first come in contact with influences which directed his desires and developed his talents?

There is no record that his school life at Ithaca brought him either teachers or associates who shared his special tastes. Nevertheless both the ornithologist and artist in him continued to grow with his growth. On February 9, 1890, Louis' mother wrote to her eldest son James:

"Louis was sixteen years old day before yesterday and he is tall and well and filling out nicely. His bird drawings are truly beautiful. He shoots rare birds *only*. He never kills them just for fun. About two weeks ago he sent the Smithsonian a rare specimen (the farthest east it has ever been shot) and received a comment in reply requesting further correspondence and information. He feels quite set up about it."

Probably this correspondence, which I have not seen, marked the young bird student's first contact with ornithologists. Prof. Liberty H. Bailey, the distinguished botanist, who joined Cornell's faculty in 1889, recalls the boy's pleasure in the receipt of this letter from Washington. Professor Fuertes had already shown him some of his son's work and, amazed at its excellence, Professor Bailey urged that full opportunity be given for its development.

At this time Louis was also receiving encouragement and assist-



ance from Prof. Burt G. Wilder, Cornell's eminent zoologist, for on June 8, 1891, his mother writes:

"Louis is getting to be quite a celebrity. The Christian Association had his drawings of birds on exhibition the other night. At present he is showing them to Dr. Wilder, who asked him to make some plates of animals for a collection in the museum. Louis feels important."

A quotation from a letter dated July 12, 1891, shows that his paint-box formed part of his outfit on a camping trip with boys who were doubtless out only "for fun" and at the same time Louis' characteristic ability to combine fun with his art. His mother again writes to her son James:

"We did not succeed in bribing Louis to give up his camping project. On the contrary he went in spite of everything and for a day or two I felt very anxious about him. Thursday your father and Dr. Hitchcock went down to Union Springs and spent two or three hours with the boys, and found them doing no particular mischief, but surprised Louis painting the face of a boy who was asleep wholly unconscious of the savage he was becoming under Louis' artistic touch."

The first pronounced change in Fuertes' life came in June, 1892, when he accompanied his parents to Europe. The summer was passed in Paris where he frequently visited the Jardin des Plantes to sketch birds and animals, and he also drew from figures in the museums. In September of that year he was placed in the Institute of Keller, a preparatory school in Zurich, Switzerland, where he remained until the following year.

Numerous drawings of European birds found in his studio at Ithaca show that change of surroundings did not divert him from his favorite pursuit. His technique at this period is so unlike that which he subsequently employed that few would recognize his work. The birds were outlined in pen and ink, colored, and, subsequently, more or less filled in with pen and ink the result resembling a colored line engraving.

His drawings, however, were obviously based on close observation and they show the character and sure, strong draughtsmanship which so distinguished his art. This method of treatment was apparently employed in all his colored drawings from about 1890 until the end of 1894. In a number of instances the attitudes

presented are strongly suggestive of the active, somewhat strained poses so often employed by Audubon.<sup>1</sup>

Returning to America in 1893, Fuertes entered Cornell. For the first two years he selected courses designed to fit him for the profession of architecture, but at the end of this time he took subjects in which he was more interested. Like many another naturalist before him, he had no 'head for figures' and his brother James, who was then in Ithaca assisting his father in preparing plans for the great engineering problem of the sanitation of the port of Santos, Brazil, writes that it was a hopeless task to try to coach Louis in algebra and geometry "for mathematics had such a soothing effect on him that he would be asleep after about five minutes of concentration."

There was no course in ornithology in Cornell in those days; no means of developing Fuertes' dominant interests. His body might be in the lecture hall when his mind was with the birds of the campus. It is related that on one occasion, during a lecture, he climbed from the class-room window attracted by a strange note in the trees without. His apology was accepted by a sympathetic professor, whose surprise would have been even greater if he had known that his absent minded student would himself be a professor at Cornell some day with campus birds for his subject.

It was eminently characteristic of Fuertes that his increasing absorption in birds should in no way tend to isolate him from his class-mates. Highly imbued with college spirit, he took an active part in college life. His musical gifts naturally led to membership in the Glee Club, of which for two years he was the leader. Singularly enough it was his affiliation with this organization, more than

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<sup>1</sup> Since this was written Prof. Francis H. Herrick writes me that in a letter received by him from Fuertes, dated February 7, 1916, there occurs the following very interesting passage:

"We have here in the town library a magnificent set bound in full morocco of the first great edition [of *The Birds of America*] purchased by Mr. Cornell about 1860 as a nucleus for the town library which he founded long before the University idea crystallized. These wonderful books were my greatest delight as a child, and for very many years were the only works on American birds of which I had any knowledge. It would be hard to estimate their effect upon me, but I am very sure that they were the most potent influence that was ever exerted upon my youthful longings to do justice to the singular beauty of birds."

In view of this statement it is evident that Audubon preceded Coues as Fuertes mentor.

any other college connection, that promoted his development as an ornithological artist.

The mid-year tour of the Glee Club for 1894 included Washington, where, a fellow-member of the club informed Fuertes, he had an uncle named Elliott Coues who was interested in birds. To the question would he like to meet him, Fuertes replied that there was no one in the world whom he would rather meet. Doubtless there was no one in the world who could have been of greater service to him. It would be impossible to overestimate the stimulating effect that Coues' magnetic personality must have had on Fuertes' responsive, appreciative nature. Nor can we value too highly the influence which Coues exerted in developing Fuertes' talents and in shaping his career.

At once Coues realized the young artist's potentialities, and he spared neither advice, instruction, nor material assistance to help him perfect his art and make it a means of earning a livelihood. During the remaining five years of Coues' life master and pupil were closely associated and the memory of this period was Fuertes' most cherished recollection. He never spoke of it without deep feeling.

Continuing his autobiographical memoranda from 1888 when, as quoted above, he described his first drawing from a specimen, Fuertes records his contact with Coues as follows: "For the ten years that came next, the study of birds and nature had to be carried on as opportunity came, along with regular schooling, and the only result was a large series of raw drawings of native birds—occasionally flowers, snakes or squirrels—but (and here is an important thing) every one a study—as good as he could make it, from an actual specimen. It was not until 1894 that any one saw them, when by a lucky chance they came under the notice of Elliot Coues, that greatest of Am. Orn. who never lost a chance to help a youngster who was willing to work. Through him the boy's work was shown to other bird men, and through his warm encouragement F. was urged to attempt the somewhat appalling task of creating a demand for his unknown goods."

A package of letters from Coues, found in Fuertes' studio carefully arranged by dates and tied firmly together, gives silent testimony to the part this correspondence played in his life. Some day

these letters should be published. I have selected for use here only those which relate to the formative period of Fuertes' professional life. The first, dated Dec. 31, 1894, was written soon after Fuertes, on the Glee Club trip, had called on Coues and shown him his paintings. It is addressed to Louis Agassiz Fuertas [sic], and reads:

DEAR MR. FUERTAS:

I will ask you to hand the enclosed letter to your father, whose full name and address I do not know.

Two of Audubon's granddaughters have been spending the afternoon here, and were very much pleased with your paintings.

I shall be glad to look over the rest of them, which you said you would send.

With regards,

Very truly yours,

(Signed) ELLIOTT COUES.

The letter to Fuertes' father is missing, but it is safe to say that it presented his son and his son's future in a new light.

It will be remembered that Coues himself was no mean draughtsman, and that he had had exceptional experience in handling illustrations of birds. He was, therefore, well qualified to criticize Fuertes' work constructively and the result of this criticism was at once markedly apparent in Fuertes' methods. This is referred to in a letter written June 12, 1895, as Fuertes was sailing with the Cornell Glee Club for England. Coues wrote:

DEAR MR. FUERTES:—

The paintings are safely to hand, and much admired. Your improvement in the technique is marked, and I am more than ever hopeful that I may be able to bring you out a little later.

Have a good time abroad, but always keep your eyes open for anything in the way of bird art and artists, and let me hear from you again.

With regards,

Very truly your friend,

(Signed) ELLIOTT COUES.

Evidently on returning from England Fuertes at once resumed his correspondence with Coues, who, on October 14, 1895, wrote him from Sylvan Lake, South Dakota as follows:

DEAR MR. FUERTES:—

I am pleased to hear from you, by your letter of Sept. 25, which has just reached me in this remote place. I leave for home at once.

If your parents are willing and your college duties permit, you had better arrange to attend the coming Congress of the American Ornithologists' Union in Washington, the latter part of next month. I am thinking of bringing your work to the notice of the Union, by exhibiting some of your best paintings, and making some remarks upon them. This can do no harm, and may do some good, and if I carry out my intention, I should like to have your presence, and exhibit *you* at the same time. I am not yet sure that I see my way to publish any of your work, but if you can secure public recognition from the ornithologists, and favorable consideration of what you already have accomplished, it may be made one means to the desired end.

With regards, which please extend to your parents,

Sincerely yours,

(Signed) ELLIOTT COUES.

We can readily imagine the disappointment with which Fuertes denied himself the privilege of a second meeting with Coues, of attending his first A. O. U. Congress, and of observing for himself the reception his drawings were accorded. But his *début* was made by proxy, and in his absence he was introduced to the ornithological world by medium of his works which were exhibited, with comments, by his sponsor Dr. Coues.

Doubtless realizing Fuertes' eagerness to know how his paintings had been received, Coues promptly reported this epoch-making event in the appended letter, dated November 14, 1895, the closing day of the session:

DEAR MR. FUERTES:—

According to my promise I brought your name prominently before the American Ornithologists' Union by exhibiting about fifty of your best paintings and talking about them. You would have felt proud and pleased if you had been present to see how well they were received, and how highly they were praised by many besides myself. I hope you are persevering under competent instruction in certain points of technique, and that in the end the result will be that I can bring out for you a very handsome volume of colored plates, and thus secure for you a permanent reputation.

Sincerely your friend,

(Signed) ELLIOTT COUES.

It must be remembered that Fuertes was still in college and trying to stay there, an occupation that left small time for the pursuit of his bird studies. Inevitably, however, they claimed an ever increasing share of his attention and thought. Dr. Coues

continued to advise and encourage him and, early in the autumn of 1896, his letters became more definitely instructive as he secured for Fuertes his first important commission. On October 16, Coues wrote from Washington:

DEAR MR. FUERTES:—

I suppose you have received your notification of the next Ornithological Congress, at Cambridge, Nov. 9-12. Under existing circumstances this is an event of some importance to your affairs, and you should not fail to present yourself. Let *nothing* interfere with this. Better also bring with you about 50 of the best things you have in your portfolio, to show, and in all ways appear in your new role of an ornithological artist, whose services have been secured by one of the great publishing houses of this country and England.

Personally, I want to see you, and talk over the matter we have in hand. I suppose you will also meet Mrs. Wright there.

Cordially yours,

(Signed) ELLIOTT COUES.

We can well imagine that Coues' command added to his own desire to attend an A. O. U. meeting made the duties of classroom seem comparatively insignificant and in consequence Fuertes answered his first A. O. U. roll-call at Cambridge in November, 1896.

The Secretary's report of this meeting records Fuertes appearance in the following words: "Mr. Louis Agassiz Fuertes exhibited and explained a collection of his own unpublished drawings of birds, made from life."<sup>1</sup>

Of perhaps even greater importance than the formal presentation of his work were the occasions when he showed his drawings to individuals and small groups who thereby had not only an opportunity to examine them closely but to meet their author. And surely no one who had this privilege ever forgot the impression made by both.

The abundance and high character of the illustrations in the bird books of today make it difficult for us to realize the sensation created by the advent of Louis Fuertes. Most of the drawings that he brought with him to the Cambridge meeting subsequently appeared in Dr. Coues' and Mrs. Wright's 'Citizen Bird,' and a comparison of the illustrations in this book with those of Mrs.

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<sup>1</sup> The Auk, XIV, 1897, p. 84.



Wright's 'Bird-Craft' published only two years earlier, affords convincing proof of what, at a stroke, Fuertes did for ornithological art. At this time Ernest Seton was the only bird artist whose work could be compared with that of Fuertes and his early abandonment of the field left it to the younger man. Coues was also present at this meeting and with complacent, almost parental pride, viewed the triumph of his protégé. Returning to Washington he wrote him on November 21, as follows:

DEAR MR. FUERTES:—

I think you have every reason to be gratified by recent events, and am sure you had a good time in Cambridge and N. Y. Don't let this success turn your head, but just go ahead and work hard, remembering that this is but the beginning of your career, in which final success can only be achieved in the good old fashioned way of hard work, and plenty of it, to the very best of your ability. I suppose no young man ever had a better opening; it remains with yourself to fill it, and prove that I have not said too much about you.

You did not say whether you had seen the article which appeared in the N. Y. Nation of Nov. 12 regarding your work.

As I think I told you in N. Y., I will accept all the pictures you showed us, with the two exceptions of the nuthatch and the hummingbird, which I should like to have you do over again. Put the nuthatch in the most characteristic attitude, head downward on a perpendicular tree trunk, with a full rounded breast, and bill pointing horizontally out to right or left. Take the frame work away from the hummingbirds, set the ♀ better on the nest, and draw the bills thinner.

And in general, *keep your accessories down*. What we want is the *bird*, with least possible scenery, stage setting, framework or background of any description. You will remember that even in the cases of those very fine pictures of the summer warbler and the yellow-rump, the *foliage* about them somewhat interfered with the effect. Be always careful about this.

I have written to Mr. Brett that he may expect to receive from you at once, all but two of the pictures you showed him. Better put them in his hands at once, with the bill for the work, of whatever price has been agreed upon between you.

I handed Mr. Chapman the list of your desiderata, and he promised to send you the specimens without delay.

Sincerely yours,

(Signed) ELLIOTT COUES.

The following March Coues published an estimate of Fuertes' art in 'The Osprey' in which he said:

"My examination of a great many of his designs, both in black and white

and in natural colors, makes me think Mr. Fuertes the most promising young artist of birds now living, and one whose work already places him in the very first rank. He is rapidly mastering the technique of his art—in other words, his talent is overtaking his genius—and has already overcome certain crudities which were obvious in his earliest efforts. I say deliberately, with a full sense of my words, that there is now no one who can draw and paint birds so well as Mr. Fuertes, and I do not forget Audubon himself when I add that America has not before produced an ornithological artist of equal possibilities."

To Fuertes, however, he was giving sound advice combined with praise where it was due and unsparing criticism where it was called for, as it is evident in this letter from Washington, written shortly before the 'Osprey' article appeared, dated Feb. 6, 1897:

DEAR MR. FUERTES:—

I have your 16 new drawings. They are beauties indeed. You seem to improve with each new effort. You are now mastering the technique, and getting such a grasp on your art that I think by the time you have done the present lot there may be no one now living, except perhaps Wolf, who will be able to draw birds as well as you do. The gem of this lot, to my eye, is the Night Hawk and moth—a bold conception, artistically executed. The Whippoorwill is very fine, and so are both the hawks.

Don't get your head turned or swelled, go steady now, patiently, laboriously, faithfully, with the most scrupulous care for precision in every minute detail—this is talent; but at the same time give your genius its own scope and free play, in conceiving attitudes, actions, and accessories; yet, keep the accessories wholly subservient to the main figure—the bird.

I heartily approve this lot, with no criticism except in one case. You must do the Turnstone over again. It is good, but not up to your present mark; for you have relapsed into your early crudeness about the belly and legs. I noticed in your early drawings of the water birds that you had not learned to handle these parts. Now you have got the Plover on its legs just right, and you must remodel the Turnstone to make it stand as the Plover does. At present the Turnstone has got its legs pulled out about an inch too far. It would pass muster with ordinary drawings, but is not up to your own mark, and you must either fit it with a new pair of legs, or draw another altogether. You see how solicitous I am that nothing whatever shall appear in these drawings to detract from your highest standard of excellence.

I return the drawings, and have written to Mr. Brett about them.

You may like to see the enclosed, which corroborates your remarkable picture of the Chimney Swift.

Very truly yours,

(Signed) ELLIOTT COUES.

As the time for Fuertes' graduation approached the question of his future became increasingly definite. While proud of his son's gifts Professor Fuertes did not see how they could be made to yield a livelihood and the opening sentence of the following letter, dated March 29, 1897, from Dr. Coues to Louis' mother induces the belief that she had submitted the whole question to him:

MY DEAR MRS. FUERTES:—

I am naturally much pleased to receive your letter. We "understand."

I fully believe Louis is too sensible and honest a character to be spoiled by what has been said, or I would have refrained from giving him in public even his just dues. His letter to me today contains some expressions that I like, regarding his absorbing interest in his work, which he says is the last thing he thinks of at night, etc. That is what I should expect, if he is on the right track, and there seems to be no danger of turning his head while it is so full of what he wants and intends to do. Then there is a naïveté about his apology for not thanking me more properly—he has been too busy, he says, with "a mixture of examinations, laboratory reports, and bird-painting." That is delightful!

I am sure that real genius can never be stayed or thwarted—the most we can do is to guide it a little, in its modes of expression. This I have tried to do in the present case. I saw his *possibilities*, two years ago, when he had not then drawn a single picture quite fit to print, and undertook to discipline him into the necessary technique. The result thus far is fully up to my expectations—yet I regard it as only a beginning.

If the present series of 111 pictures turn out as I expect, I can probably secure him a contract worth several thousand dollars cash. Both fame and fortune seem to be within his grasp, if I can guide him along the way now opened. I have had the handling of a good many boys who wanted to do this or that in science, but had no means, and I have uniformly told them that the *first* thing was to secure means of livelihood, which they could not hope for in science at the outset; and to come to me again, in the matter of ornithology, *when* they had become self-supporting in some "practical" trade, business or other occupation. With Louis it is different. If things turn out as I expect, the thousand dollars or so he will put in his pocket for this work is very little in comparison with what he will be able to earn soon. He should be independent of the world from the start; if his work goes on as it should, he could command more than a *fair* price for the productions of his pencil and brush. I have sometimes fancied his father was not altogether pleased, or even satisfied, and imagined he had other plans for his son's future. But if Louis' gifts be what I believe them, he will never make anything of himself, except along the lines of their exercise and development—never attain to more than "respectable mediocrity" (which for me means dead failure) in any other direction. I weighed my words in the Osprey, in saying that this country has not

before seen Louis' equal in the *possibilities* of zoological art (I did not say actualities, as yet; good as his pictures already are, I regard them as indicative only of what he may attain to, if he keeps on as he has begun).

I hope he is not getting hurried or worried about his present press of work. It is urgent, to be sure, as we are printing the text of the book rapidly, and shall be done before he gets all his pictures made to go with it. But I wish you would see that he does not over work. Far better let the work wait a little, than have a single picture in it that shows signs of haste or carelessness. Every one should be as good as he can possibly make it, and he must take his own time.

As soon as he has finished with this contract, and graduated from college, I hope he will be able to take a long rest, go off in the woods, and get fresh inspiration from contact with nature. Do you know, I can see a difference between the pictures he makes of birds he knows alive, and those he has only dead specimens of to work from? I should like to have him turned loose for the summer, with his field glasses, pencils and sketch book. There is nothing like it, for the ends we have in view.

I should like to hear from you further, and probably also Mr. Fuertes may wish to write, as the probable shaping of a gifted young man's career is of course of the utmost importance.

Mrs. Coues thanks you for your kind message, and joins me in cordial regards.

Very sincerely yours,

(Signed) ELLIOTT COUES.

It is probable that this letter was the deciding vote in favor of Fuertes' becoming a professional painter of birds. We can imagine how, with his ardent enthusiasm raised to fever heat by Coues' praise and the urgent demand for his drawings, he now looked eagerly forward to his graduation and subsequent freedom to devote himself wholly to his calling. We wonder, indeed, how he found time and thought for his college duties or to prepare the thesis on the Coloration of Birds which he presented for his bachelor's degree.

In July, 1897, the month following his graduation, Fuertes placed himself under the guidance of the eminent artist, Abbott H. Thayer, an event second in importance only to his association with Elliott Coues.

Fuertes had first come to Thayer's attention at the Cambridge meeting of the A. O. U. Not, as might be supposed, through his drawings, but through his apt and appreciative comments on the demonstration which Thayer presented there of his recently an-

nounced laws underlying protective coloration in animals. So great, indeed, was Thayer's absorption in his own researches that he did not see any of Fuertes work until the following year, when after meeting him (possibly in Scarborough, New York) he wrote, on a piece of brown wrapping paper the following letter:

My dear Fuertes (Here you begin to experience my characteristic railroad epistles) I am on my way up to Dublin. I omitted to say (what I suppose is, however, obvious) that of course the pleasure of teaching you would be the only form of pay that I could accept.

You will be amazed, at the end of even a few months of pure abstract exercise of your sight-power, to see how much nearer you can come to the delicate charm of a bird. No, it can't be *promised* that a few eye-opening months may not at first simply unnerve you by showing you the rocks under your keel—but this I know, that the young man who did those colored studies from live birds has too fine a gift to have a right to hold back from training. It is just as with a wing-shot. He may be very gifted in shooting without putting the gun to his shoulder, but he can't develop that method to so high a score as the man who aims *may* develop *his*. One must freely turn his back on knacks and let his full powers be brought to bear. In this case the powers are those of sight, and every art student goes on to realize that at first this sense was only general. The best thing for you would be to draw from some beautiful antique marbles—i. e. casts, awhile.

I send you this at the risk of scaring you away with so much ardor and talk. I am bird-crazy, and that's the truth.

Yours very sincerely,

(Signed) ABBOTT H. THAYER.

Gerald got a beautiful Mourning Ground Warbler again yesterday.

On the cars—Tuesday P.M. May 11 [1897].

The letters which followed led to Fuertes joining Thayer at his summer home in Dublin, N. H. This providential affiliation is thus recorded in Fuertes' autobiographical sketch:

"As unexpectedly and as providentially as was the aid and advice of Coues in the material and scientific side of the work, came almost simultaneously an invaluable opportunity to study the much harder and even more exacting work of painting. Mr. Abbott H. Thayer, one of America's greatest painters, who is also a most keen and efficient naturalist—the one person in the world best able to help and criticize—volunteered his help, and a year of priceless study with him was the outcome."



## EXPEDITIONS.

Fuertes adds that he "now had the help of the two most effective friends he could have found and that it devolved upon him to follow up his matchless advantages. First, it was necessary to enlarge his experience, hitherto limited to the birds of New York State." Second, "it was essential to start a working collection both of skins of birds and of careful notes and studies of such characters as were not easy to preserve."

Ever a welcome member of an expedition Fuertes never lacked for opportunity to extend his field experiences. Eventually they were equalled by those of few ornithologists, and were incomparably wider than those of any other bird artist.

In the spring of 1898, with Abbott Thayer and his son Gerald, he went to Florida. There they made their headquarters at the then famous resort for naturalists, maintained by Mrs. F. E. B. Latham, on the east peninsula of Indian River opposite Micco. Here in a primeval forest of cabbage palms and live oaks bordered by marshy savannas and mangrove islands, with the river on one side the ocean on the other, teacher and pupil found an endless series of novel and exciting experiences. Later they camped at Indian Field on the headwaters of the St. John's River west of Melbourne.

The following year, as a guest of the Harriman Alaska Expedition, Fuertes visited the region between Seattle and Bering Strait where almost every bird seen was new to him. In 1901 as a member of a Biological Survey party he spent five months in the deserts of western Texas and in New Mexico. In 1902, as the artist of an American Museum Expedition to the Bahamas, he further increased his knowledge of birds in nature.

Members of the A. O. U. who crossed the continent in a party to attend the 1903 San Francisco Congress will recall Fuertes' skill with a collecting-pistol and his activity in using it whenever opportunity offered; and sometimes he met opportunity more than half-way.

He joined the group that went to the Farallones and subsequently aided in securing material in the San Joaquin Valley, at Carmel, at Paicines, near Price's Camp in the Tahoe region, and on



Pyramid Lake, Nevada, for American Museum exhibits. His wedding journey to Jamaica in the summer of 1904 gave him his first impressions of Antillean bird-life. Two years later, with an American Museum Expedition, he went to the prairies of Saskatchewan and the Canadian Rockies; and in 1908, under the same auspices, he visited Cuthbert Rookery in southern Florida.

The summer of 1909 found him in the Magdalen Islands and on Bird Rock with Dr. L. C. Sanford, and the following year with an American Museum Expedition in Yucatan and eastern Mexico he had his first experiences in the continental tropics. This experience was greatly widened in 1911 and 1913 when he accompanied American Museum Expeditions to Colombia, in the course of which he crossed that country from the Pacific coast to the Orinoco drainage.

An ever increasing demand for his services now made such heavy demands on Fuertes' time that of necessity he was obliged to curtail his field-work. Beyond short trips, usually with some special object in view, he therefore made no further expedition until 1926 when in September of that year he went with a party from the Field Museum to Abyssinia, returning in May, 1927.

Fuertes was a tireless, effective worker. He utilized every available moment of his time afield to increase his knowledge of the living bird, and to add to his collection of specimens and drawings. His industry combined with his exceptional opportunities placed him in possession of an unequalled amount of original data on which his finished work was based. A very large proportion of his published illustrations embody the results of his own observations and are thus actual contributions to knowledge. This is particularly true of his colored drawings of those birds in which the unfeathered areas change color after death.

#### PUBLISHED ILLUSTRATIONS.

For nearly a third of a century Louis Fuertes was the leading bird artist of this country. During the latter part of his life he was wholly unable to fill all the requests for his services. When we consider the number of illustrations that he made for publication and attempt to multiply them by the number of times that each one was printed, we gain some idea of the influence he exerted

on bird art and bird study by this widespread diffusion of authentic information concerning the appearance of birds in nature. An estimate of his achievements may be made more definite and impressive by an examination of the appended list of the more important works which he illustrated.

1896. A-Birding on a Bronco. Florence A. Merriam. 22 pen and ink cuts.
- 1897-99. The Osprey. The frontispiece of the American Rough-leg and text-figures of the Long-billed Marsh Wren, Screech Owl and Snowy Owl which appeared in 'The Osprey' for March were his first published wash-drawings. In October, 1898, Coues took over the editorship of 'The Osprey' from Walter Johnson, its Founder, and added Fuertes' name to his staff as Art Editor. Fuertes continued to contribute to it until 1899.
1897. Citizen Bird. Elliott Coues and Mabel Osgood Wright. 111 black and white drawings. This is the first book adequately presenting Fuertes' work. The drawings were made largely under Coues' supervision and reached a standard not before attained in American bird art. In 1907 many of them, reproduced on a larger scale, were published in the revised edition of Mrs. Wright's 'Birdcraft.'
1899. The Auk. The plate of Sennett's and Fisher's Seaside Finches in the January 'Auk' is the first of Fuertes' paintings to be reproduced in color. It was followed by others in each of the four succeeding numbers. Beyond the colored frontispiece of the Oriole (*Icterus fuertesi*) Fuertes discovered near Tampico, Mexico, which appeared in January, 1911, and a black and white plate of the Petrel, *Aestrelata chionophara* in January, 1914, Fuertes made no other illustrations for the pages of 'The Auk.' In January, 1913, however, he contributed a new design for the cover. Two years later he followed it with the one now in use. Let us hope that the present one will never be replaced.
1899. North American Fauna, No. 16. C. Hart Merriam, U. S. Dept. Agriculture. 5 black and white drawings in the text.
1901. The Woodpeckers. Fannie Hardy Eckstorm. Five colored plates; the first to appear in a book.
- 1901-09 Yearbooks U. S. Dept. Agriculture:
  1901. Two Vanishing Game Birds—The Woodcock and the Wood Duck. A. K. Fisher. 2 black and white plates.
  1903. Economic Value of the Bobwhite. S. D. Judd. 1 colored plate.
  1906. Cage Bird Traffic of the United States. Henry Oldys. 1 colored plate (Lady Gould Finch).
  1907. Does it Pay the Farmer to Protect Birds. H. W. Henshaw. 4 black and white plates.

1908. The Economic Value of Predaceous Birds and Mammals. A. K. Fisher. 3 colored plates.
1909. Introduction of the Hungarian Partridge. Henry Oldys. 1 colored plate.
1902. Handbook of Birds of the Western United States. Florence Merriam Bailey. 30 full-page plates in black and white and many wash drawings in the text.
1902. The Birds of the Rockies. L. S. Keyser. 8 plates, 4 colored.
1902. Upland Game Birds. Sandys and Van Dyke. 5 black and white plates.
1902. Narrative of Harriman Alaska Expedition. Burroughs, Muir and others. 16 plates, 4 colored.
1903. Key to North American Birds. Elliott Coues. Over 200 wash drawings, chiefly full figures in the text and a colored frontispiece in each volume. Most of the illustrations were made about 1900 or soon after, their earlier publication being prevented by Coues' death in 1899.
1903. Water Fowl. Sanford, Bishop and Van Dyke. 14 black and white plates.
1903. Economic Value of Birds to the State. Frank M. Chapman. 12 quarto colored plates. The success of these plates won for Fuertes the commission to illustrate Eaton's Birds of New York.
- 1904-26. Bird-Lore. Fuertes' work first appeared in 'Bird-Lore' in 1904, and for the succeeding 22 years his colored plates were the leading illustrative feature of the magazine. In 1907 his 12 'Bird-Lore' Warbler plates, together with an equal number by Horsfall, were issued in book form.
1905. The Grouse and Wild Turkeys of the United States and Their Economic Value. S. D. Judd. Biol. Surv. Bull. No. 24. 2 plates, one colored and one black and white.
- 1907-10. Birds of California. F. E. L. Beal. Biol. Surv. Bull. Nos. 30 and 34. Part I. 1907, 4 colored plates, Part II, 1910, 6 colored plates.
1908. Food Habits of the Grosbeaks. W. L. McAtee. Biol. Surv. Bull. No. 32. 3 colored plates.
1910. Distribution and Migration of North American Shorebirds. W. W. Cooke. Biol. Surv. Bull. No. 35. 3 black and white plates.
- 1910-14. Birds of New York. Elon Howard Eaton. The 106 quarto colored plates in the two great volumes of this work figure nearly every species of the state and for the first time gave Fuertes an opportunity to express his wide knowledge of birds in nature. The subsequent issue of these plates in a portfolio at a nominal price greatly increased their circulation and consequent educational value. The originals were purchased by Mrs. Russell Sage and presented to the State Museum at Albany.

1911. Food of the Woodpeckers of the United States. F. E. L. Beal. Biol. Surv. Bull. No. 37. 5 colored plates and 1 black and white plate.
1911. Birds of Arkansas. A. H. Howell. Biol. Surv. Bull. No. 38. 4 black and white plates.
1911. Woodpeckers in Relation to Trees and Wood Products. W. L. McAtee. Biol. Surv. Bull. No. 39. 2 colored plates.
1912. Birds of Eastern North America. Frank M. Chapman. 15 plates, 8 in color.
1913. Fifty Common Birds of Farm and Orchard. H. W. Henshaw. Farmers' Bulletin 513, U. S. Dept. Agriculture. 50 colored figures in the text.
- 1913-16. National Geographic Magazine. H. W. Henshaw. 250 colored illustrations of American birds issued in book form in 1918 as 'The Book of Birds.'
1917. Distribution of Bird Life in Colombia. Frank M. Chapman. 4 colored plates.
- 1918-22. Monograph of the Pheasants. William Beebe. 5 colored plates.
1919. Bird Book for Children. Thornton Burgess. 32 colored plates.
- 1923-26. A Natural History of the Ducks. John C. Phillips. 25 plates, 16 in color.
1925. Birds of Massachusetts. Vol. I. Edward Howe Forbush. 33 quarto plates. A distinct advance over the plates for the 'Birds of New York,' both in detail and general handling. The best of Fuertes' illustrations. Plates for the second volume were completed before he went to Abyssinia. He had begun work on those for the third volume a short time before his death. The originals have been acquired by the Boston Society of Natural History.
1926. The Distribution of Bird Life in Ecuador. Frank M. Chapman. 5 colored plates.
1927. General Ornithology. Laboratory Notebook. Allen, Fuertes and Pirnie. Pen and ink cuts of structural details and entire figures representing leading types.

A list of the illustrations scattered through magazines would materially increase the number here recorded. Fuertes also made an extended series of drawings of mammals for the National Geographic Magazine and also for several books. But mammals did not appeal to him with the force of birds and the result is apparent in his work.

#### UNPUBLISHED WORKS.

It is not possible to present at this time an even approximately correct number of Fuertes' unpublished paintings. The series of

25 large panels in oil in the home of Mr. Frederick F. Brewster, in New Haven, is the most noteworthy and represents the best work Fuertes ever did of this kind.

The birds, notably Flamingoes, in the backgrounds of the Habitat Groups at the American Museum, and the murals in the Flamingo Hotel at Miami Beach, and in the possession of the New York Zoological Society are possibly next in importance.

There are also numbers of framed pictures belonging to private individuals which are superb studies of bird life. It was to this phase of his art that Fuertes had proposed chiefly to devote himself when he had finished the plates for Forbush's 'Birds of Massachusetts.'

Besides these formal paintings there were in his studio hundreds of field studies including the splendid lot of Abyssinian sketches, incomparably the best he ever made in the field. Fuertes' last work, therefore, both published and unpublished, shows that his genius had not yet found its full expression.

#### THE TEACHER.

Fuertes was a born teacher. He had the gift and the desire to convey information. To those who came to him for help in their study of birds, and particularly of birds in art, he gave himself unsparingly and with no other reward than to gratify his desire to help.

With characteristic generosity he placed his whole equipment at the disposal of his colleagues. Jealousy and professional rivalry were unknown to him. He loaned his unique field studies or described tricks of technique with equal freedom.

Although so closely identified with Cornell life and interests that he seemed to be a part of the University it was not until 1922 that he became a member of its staff. As a lecturer on birds he then became associated with Dr. Arthur A. Allen, professor of ornithology. How interesting it is to learn that in these lectures he elaborated his graduating thesis on the coloration of birds! Of his work in the classroom Dr. Allen writes:

"Fuertes was not an orator—his manner of speaking and frequent digressions often made it difficult for students to take notes on his lectures—but so vivid was his personality, so original

his vocabulary, so humorous his metaphors, and so warm his human sympathy, that notes were never necessary. Students left the class room inspired. They remembered everything he said and discussed it among themselves as though it had been a baseball game. It was not study to them; it was recreation. Those who have heard Fuertes on the formal lecture platform have occasionally been disappointed, for whenever he felt constrained, he did not indulge in those flights of metaphors that made his informal discourse so delightful. But with students he always felt at home; he was one of them and one with them, and they responded with the best that was in them."

Here, too, should be recorded the fact that in October, 1917, Fuertes came to Washington to demonstrate to the Engineer Corps how the fundamental principles of protective coloration, as they had been discovered by his teacher, Abbott Thayer, might be employed in camouflage.

#### IN THE FIELD.

Fuertes was more keenly responsive to birds in nature than any man I have ever known. The bird lover, artist and musician in him all combined to arouse an indescribably intense and eager interest in the living bird. The impulse that prompted him to leap from a classroom window to follow a strange bird-note grew with his growth. He was not a collector of birds in the ordinary sense, but when he encountered a species new to him he had an overpowering desire to secure it; and it was indeed an elusive bird that evaded him. He was a persistent, skilful, fearless and resourceful hunter. His exceptional power accurately to reproduce birds' notes was a great asset to him as a collector and brought him many species which would have escaped men without this gift.

His memorable stalk for Flamingoes in the Bahamas twenty-five years ago is recalled by this fragment from a letter written in Abyssinia last January:

"Five hundred flamingos that don't even move away as the caravan skirts the salt incrustated beach doesn't need boosting with you as a bird sight—and the same thing, doubled or trebled, seen farther up the lake from a mile distant camp, swinging up and



around and back and forth with the rising sun on their backs and a still-pink sky beyond the mountains across the lake found me short-winded as I forgot to function for the time being. I was afraid that I'd be a bit jaded on 'fillymingoes,' but there's no danger. I had the same almost unbearable thrill—wide, deep, and full—that my first glimpse gave me, so many years ago, at Grassy Creek. This bird has a different charm—perhaps less wildly beautiful, than ours, but it gets you in the same place."

Some years ago not long after we had been afield together I wrote:

"Fuertes in possession of a freshly captured specimen of some bird which was before unknown to him is, for the time, wholly beyond the reach of all sensations other than those occasioned by the specimen before him. His concentration annihilates his surroundings. Color, pattern, form, contour, minute details of structure, all are absorbed and assimilated so completely that they become part of himself, and they can be reproduced at any future time with amazing accuracy. Less consciously, but no less thoroughly and effectively, does he store impressions of the bird's appearance in life, its pose, mannerisms, characteristic gestures of wings, tail or crest, its facial expression—all are recorded with surprising fidelity.

"This indeed is the keynote of Fuertes' genius—for genius it is. His mind appears to be a delicately sensitized plate designed especially to catch and fix images of bird life; and of such images he has filed, and has at his finger tips for use, a countless number; for his opportunities for field study have been greater than those of any other painter of birds."

Having acquired specimens adequately representing a bird's appearance, Fuertes experienced no further desire to collect it. His interest now centered in its actions, habits, and voice and was unending. His keen, discriminating, musical ear made him particularly susceptible to the influences of birds' notes. This cannot be better illustrated than to quote from his description of the call of the Tinamou (*Crypturus*):

"In the tropics, as in more familiar scenes, the bird-songs of the fields are frank, pastoral, and prevalent. With us, the Meadow-lark, Field Sparrow, Vesper and Song Sparrows pipe often and

openly, and, from May to October, their notes are almost constantly in the air. But the forest birds are more reluctant singers, and their rare notes are all mystery, romance, and reclusive shyness. The Field Sparrow will sit on a dock-stalk and sing, looking you in the eyes; the Veery will quietly fade away when your presence is discovered. . . .

"But, enter the forest, and all is of another world. For a long time, perhaps, as you make your way through the heavy hush of its darkened ways, no sound strikes the ear but the drip of water from spongy moss-clumps or broad leaves. You feel yourself to be the only animate thing in your universe. All at once, perhaps far off through the forest, perhaps close behind you, you hear the strangely moving whinny of a Tinamou. I think no sound I have ever heard has more deeply reached into me and taken hold. Whether it is the intensity of feeling that a deep, silent forest always imposes; the velvet smoothness of the wailing call; the dramatic crescendo and diminuendo that exactly parallels its minor cadence up and down a small scale; something, perhaps the combination of all these, makes one feel as if he had been caught with his soul naked in his hands, when, in the midst of his subdued and chastened revery, this spirit-voice takes the words from his tongue and expresses too perfectly all the mystery, romance, and tragedy that the struggling, parasite-ridden forest diffuses through its damp shade. No vocal expression could more wonderfully convey this intangible, subduing, pervasive quality of silence; a paradox, perhaps, but not out of place with this bird of mystery." <sup>1</sup>

Here indeed is a tribute alike to the bird's call, to the depth of Fuertes' emotion, and to his power of description. Reading this one cannot but regret that his brush did not give his pen more frequent opportunity for expression. Some day, let us hope we may have a volume made from his journals and correspondence.

#### THE MAN.

We have seen that birds appealed to Louis Fuertes as an ornithologist, artist, musician, and writer, and when we realize the material and emotional responses they evoked in his finely attuned,

<sup>1</sup> From 'Impressions of the Voices of Tropical Birds,' *Bird-Lore*, 1913, pp. 341-344 and 1914, pp 1-4, 96-101, 161-169, 342-349, 421-428.

sensitive nature, and add thereto the evergrowing demands of his profession, we can in a measure, conceive of the part that birds played in his life.

We might readily imagine that he was so absorbed in his studies and in giving form to them that he became a self-centered specialist who found pleasure only in his work and the society of his colleagues. But it was one of the marvels of Fuertes' nature that much as he loved birds, he loved man more. A man who thirty years after graduation was known as the "best beloved alumnus" of a university whose graduates number over 40,000 was obviously possessed of those qualities of head and heart which win universal love and esteem.

A member of college clubs and fraternities and of many civic organizations his contacts with life, wholly outside his profession, were many and varied. His boundless spirit of helpfulness, his wide human sympathies, his eternal youthfulness, combined with the seriousness of maturity, gave him friends, intimate friends, among people of all ages and in every walk of life.

His studio was a center of college and civic life. Here came children from the kindergarten and professors from the university, scientists and artists, boy scouts and rotarians, hunters and game-wardens. With everyone he had something in common. To them all he was ever an inexhaustible source of material helpfulness and spiritual refreshment.

Here came representatives of committees in search of program or poster, or one of the endless forms of assistance he was so well fitted to give; and always he welcomed them, putting aside his work for theirs.

But a man may show only part of his nature under the limited demands of a home environment; while the stress and strain of travel off the beaten trail, and particularly the inconveniences of camp-life in remote places, may reveal traits of character as surprising as they are disappointing.

As the artist of American Museum expeditions Fuertes was my camp-mate in the snows of the Canadian Rockies and the mud of Mexican lagoons; in Bahaman 'swash' and on Andean paramo. For over 60,000 miles we travelled in close, intimate companionship encountering trials, obstacles and disappointments in sufficient

variety to make heavy drafts on one's adaptability, resourcefulness and patience; and each journey increased my admiration for the man and love for the friend. He was never wanting; he never disappointed you. From start to finish he was a stimulating scientific associate, and an enthusiastic, helpful comrade. He multiplied your joys and shared your sorrows. He could handle mules or *jefe politicos* with equal success. He was collector, artist and cook in one. He was never too tired for fresh exertion, never too discouraged to try again. He got the best out of every experience whether it was a new bird, a view, or some minor incident of the day's work. No one could resist his ready wit, his whole-souled genuineness, his sympathetic consideration, his generosity of thought and deed. Everywhere he made new friends and everywhere he found old ones. He never seemed to get beyond the range of Cornell men. They might be class-mates or recent graduates, but to them all he was "Louis" and the glowing warmth of their greeting bespoke the depth of their affection.

These meetings symbolized Louis Fuyertes' contact with life. He brought only beauty and happiness into the world. Every memory of him is joyous. Although our grief in his death is immeasurable, we must not let our sorrow cast its shadow on the past or future. For nearly a third of a century Louis Fuyertes enriched the world with his talent and his personality. Let us continue to make him a part of our lives. As an artist he has attained immortality through his works; as a man let us so honor and perpetuate his memory that those who come after us will know him not alone for what he did but also for what he was.

*American Museum of Natural History,  
New York, N. Y.*

LOUIS AGASSIZ FUERTES.

---

Too soon gone home,—his rainbow palette spread,  
His brush a-poise! The unborn birds meshed deep  
Within the pigments shall forever sleep—  
Past incarnation, with the master sped.  
Gone home too soon, whose gifts of heart and head,  
Whose necromantic brush with loving sweep  
Wrought on the arid feathered skins to keep  
A tryst with resurrection from the dead.

Rich in those gifts beyond the reach of training,  
As fine in manhood as he was in art,—  
Selfless in service, careless of the cost,  
Waiving the gain and through the loss attaining  
What time will grant him was the better part . . .  
Each bird he painted sings us what we lost.

WARNER TAYLOR.

*University of Wisconsin,  
Madison, Wisc.*

## NOTES ON THREE CUBAN BIRDS.

BY THOMAS BARBOUR.

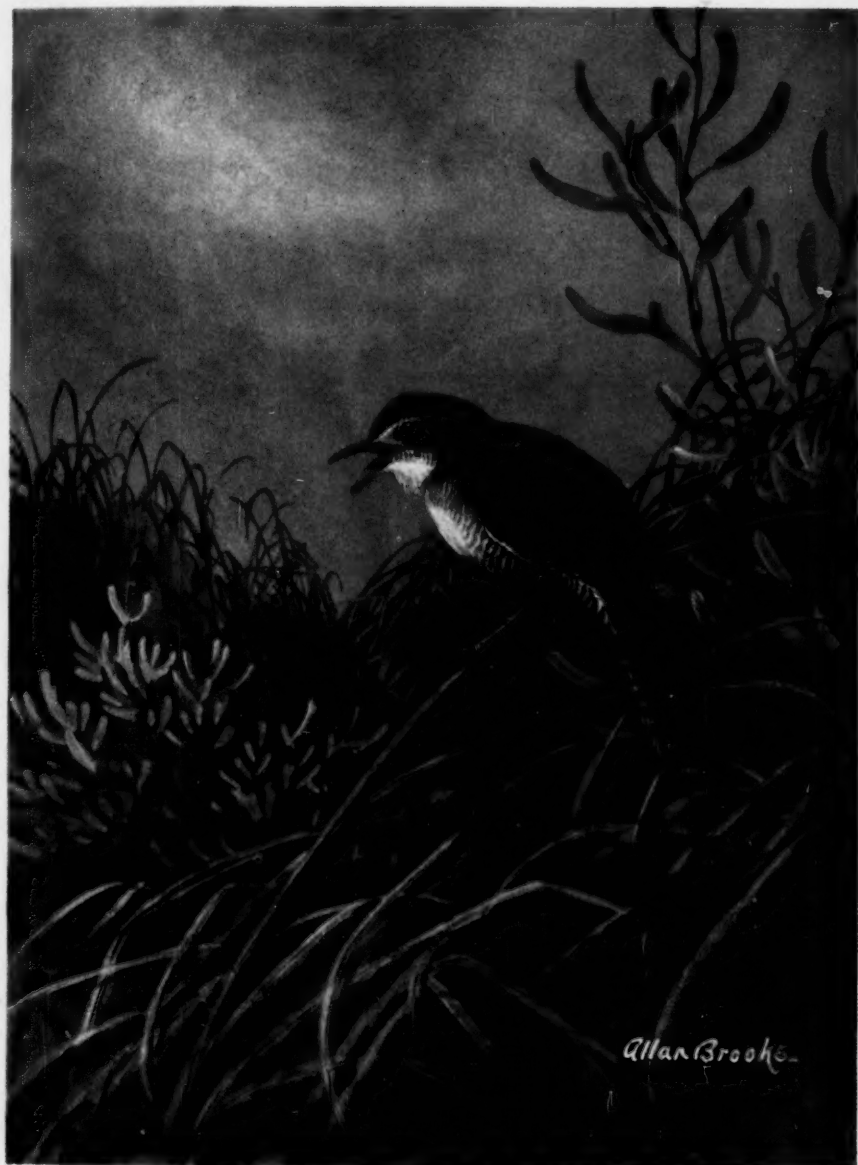
(Plates II-IV.)

ONE hears rumors from time to time, especially while collecting in Tropical America, concerning all sorts of creatures which one seeks but never finds. I still believe that the "Taquache" of the Trinidad Mountains may be, or may have recently been, a living *Nesophontes*. Running down another clue led to getting living specimens of *Capromys nana*, previously known only from fossil remains. Another chance, years ago, brought about my meeting with Fermin Z. Cervera.

He was, I have always understood, a soldier in the Spanish Civil Guard and by some mischance was not repatriated after the war. Cervera, although a somewhat peculiar person in several respects, was nevertheless a born naturalist, keenly interested in entomology and indeed in everything pertaining to the animal life of Cuba. We made many trips together and Cervera did much collecting at other times. He became a skillful preparator and a keen observer.

I had been into the Zapata Swamp from the northeast several times with W. S. Brooks and with him had also spent some time near the upper end of the Ensenada de Cochinos, whence the swamp is quite readily accessible. Finally Cervera decided to reach the same general region via the Hatiguanico River and since the only means of communication available was the aid of the charcoal burners, for Cervera was no camper, he finally landed at Santo Tomás. Santo Tomás is the name for an early settlement, now abandoned, but it nevertheless persists as the designation for a charcoal producing region. It may be reached by finding a launch of sorts at Batabanó and then running about ten hours to reach the mouth of the Río Gonzalo, as it is usually called on the maps or Río Hatiguanico as it is generally known to the people. Proceeding up the river some three or four leagues one meets a ditch running, roughly, S. S. E. and extending about three leagues farther where one reaches a short, narrow gauge railroad on which, by means of light trucks, charcoal and hard wood railway ties are





CERVERA'S WREN, *FERMINIA CERVERAI* BARBOUR



gotten out when the state of the water permits of transportation through the ditch.

I have described the general character of the Zapata Swamp in 'The Birds of Cuba' (Mem. Nuttall Ornith. Club, 6, 1923). It is a tangled mass of aquatic plants and sawgrass, oft times afloat but in dry seasons resting on the hard pan which underlies the whole area. Throughout the Swamp there are scattered *cayos*, small areas of firm land bearing palms and hard wood trees. On some of these unmolested by the introduced rats, the little *Capromys* still occurs and it was while visiting *cayos* near the Cochinos Bay area that I first heard rumors which led to the belief that there were birds hitherto unknown still to be found in the Zapata Swamp region.

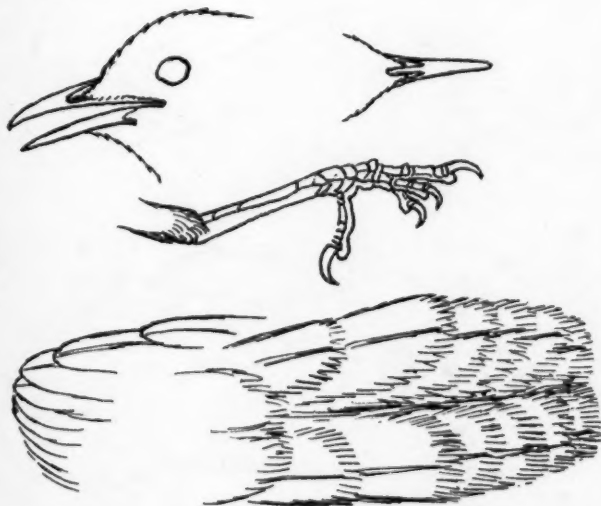


Fig. 1. *Ferminia cerverai* (nat. size).

Finally during the autumn of 1926 Cervera made his first trip to Santo Tomás. Here the peculiar Wren which I called *Ferminia cerverai* (Fig. 1) turned up in a region of low but firm terrain, of scattered bushes, mostly *Myrica*, low scattered trees mingled with patches of sawgrass and rushes, the whole matted thickly together with creepers and vines.

This bird, like the others described in a subsequent paper, really seems to have no very near ally. Its details are well shown by Major Allan Brooks's excellent figures. It recalls to some extent Bewick's Wren and Dr. Chapman has called my attention to the peculiar, but I believe fortuitous, similarity in pattern to be seen in *Troglodytes tessellatus* of the coastal plain of southern Peru. The males apparently are easy to collect for they have a loud and pleasing song which Cervera said at once recalled the Goldfinch (*Carduelis*) of his native Spain. I at first believed this Wren to be quite flightless, but I am now told that it has a weak, fluttering flight though in general it lives in the beds of sawgrass and rushes and has, of course, no occasion to make protracted journeys. Of the nests and eggs unfortunately we as yet know nothing whatever.

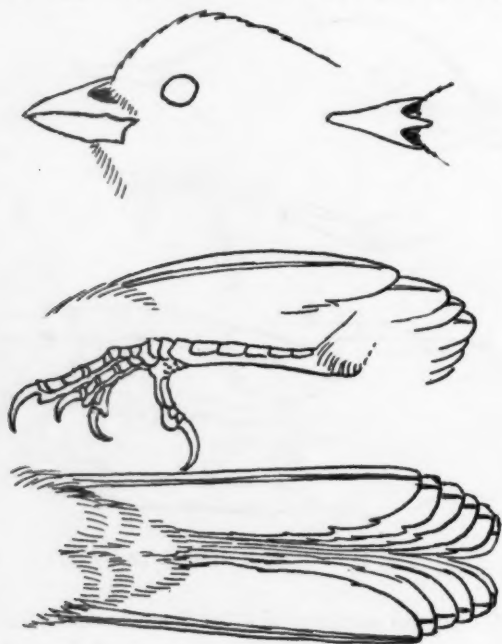
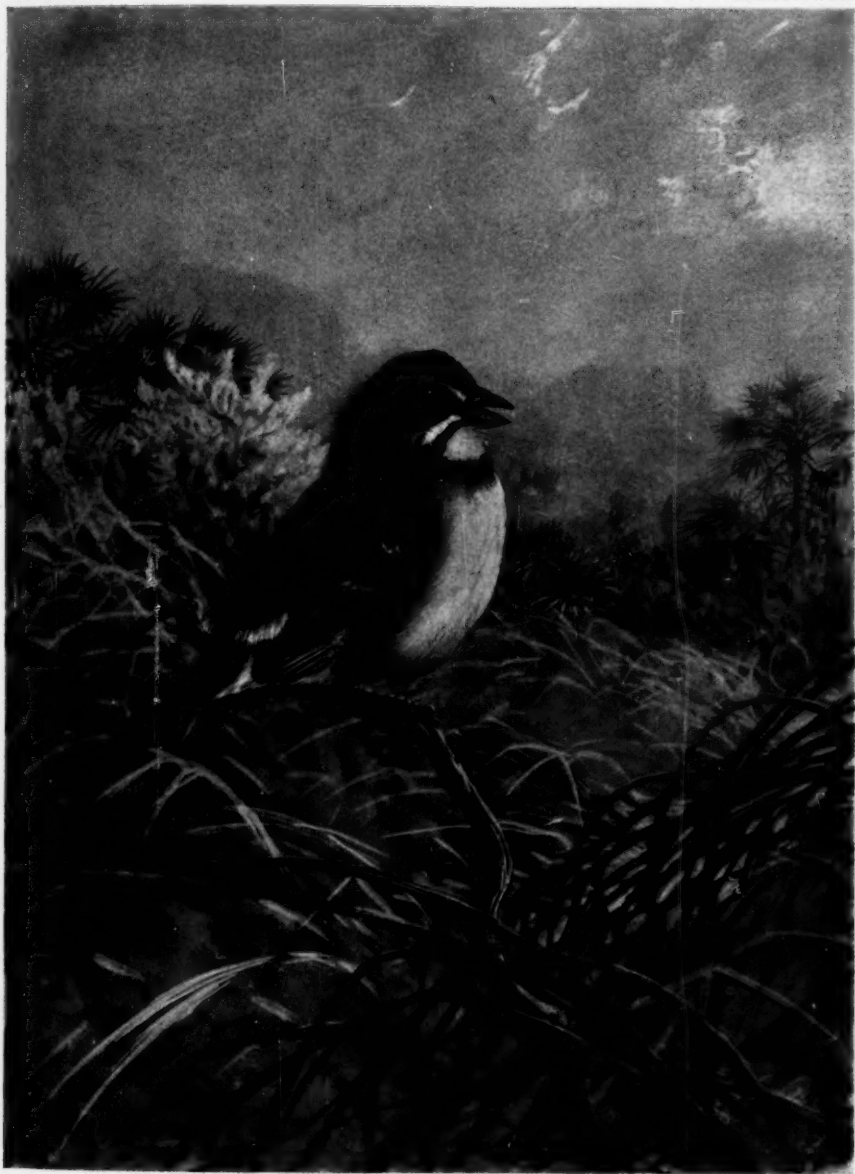


Fig. 2. *Torreornis inexpectata* (nat. size).

Shortly after the trip on which *Ferminia* was discovered, occurred the frightful hurricane of October 24, 1926, when the town of



THE ZAPATA FINCH, *TORREORNIS INEXPECTATA* BARBOUR AND PETERS





Batabanó and its shipping was almost completely annihilated. I went to Cuba in early February and met Cervera but even then transportation was unobtainable to the river and it was not until the spring that Cervera was able to get back to Santo Tomás. He then made several trips of varying duration, finding *Ferminia* again and collecting in addition the extraordinary Finch (*Torreornis inexpectata*) (Fig. 2) and the still more remarkable and apparently quite flightless Rail (*Cyanolimnas cerverai*) (Fig. 3) which have been

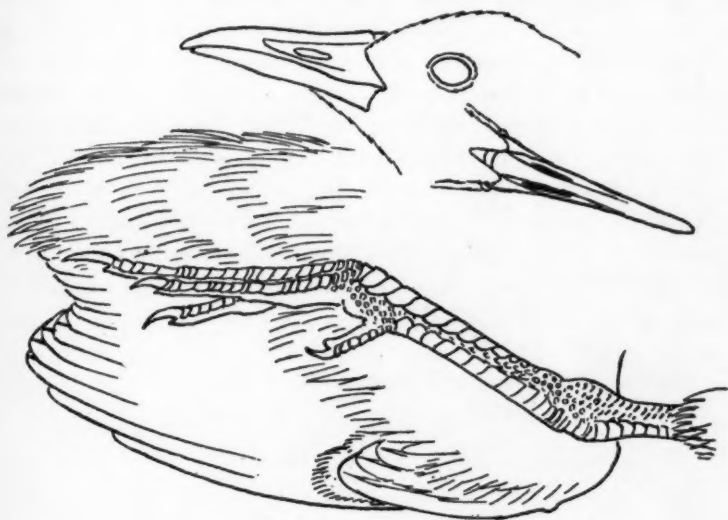


Fig. 3. *Cyanolimnas cerverai* ( $\frac{4}{5}$  nat. size).

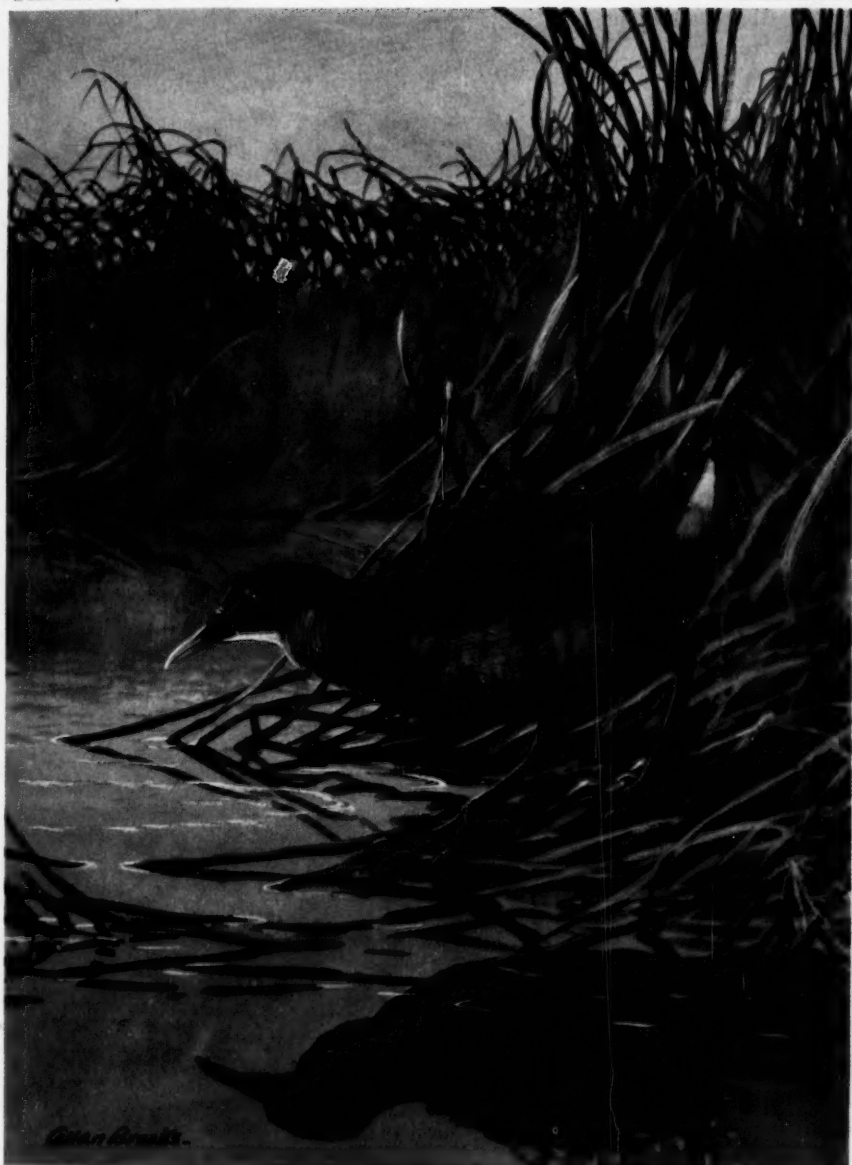
described elsewhere. The Finch is perhaps the most peculiar bird of the three in that while recalling through one character or another several Neotropical genera it stands quite by itself with no obvious allies and when all is said and done it is hard to say much more concerning the Rail. Here again Major Brooks's excellent figures tell more than long pages of description.

I feel quite sure that probably all three of these birds have a slightly wider distribution than these notes would indicate and there may be, and probably are, small colonies on other bits of firm land in the Zapata area. A large part of the region is still unknown zoologically and even along the southern coast of the

peninsula composed largely of salt pans and bare marly wastes with outcrops of dog-tooth limestone there may perhaps be other localities with environmental conditions similar to those at Santo Tomás.

There is no reason to suppose that such conditions have been much more widely spread in Cuba during recent geologic times, with the possible exception that conditions similar to those found today may have extended over the large submerged area now represented by the shallow banks, with scattered mangrove keys, extending towards the Isle of Pines and perhaps eastward along the southern Cuban coast. I do not believe that these birds are relics in the sense that they once ranged widely over Cuba, as did, for instance, *Capromys nana* and the Zapata crocodile (*Crocodylus rhombifer*). Of these animals fossil remains are abundant but the three birds are surely so highly modified for just the conditions which exist where they now occur that broad distribution seems most improbable. Altogether it seems fair to say that they have proved a pleasant and most unexpected climax to the delightful series of journeys which I have made in Cuba during the last twenty years.

*Museum of Comparative Zoology,  
Cambridge, Mass.*



THE ZAPATA RAIL, *CYANOLIMNAS CERVERAI* BARBOUR AND PETERS



THE ORIGIN OF HOST SPECIFICITY IN THE PARASITIC  
HABIT IN THE CUCULIDAE.

BY HERBERT FRIEDMANN.

ONE of the most puzzling features of the parasitic habit as exhibited by the Cuckoos (Cuculidae) is that of host-specificity. In the classic case of the European Cuckoo (*Cuculus canorus canorus*) it is now well established that generally each female deposits all her eggs in nests of a single species. That is, one Cuckoo may parasitize only Meadow-Pipits, another may lay its eggs only in nests of Hedge-Sparrows, while still another may victimize Reed-Warblers exclusively. Each individual has its own particular species of victim to which it generally limits its attention. The species *Cuculus canorus canorus* lays its eggs in the nests of a great number of different kinds of birds, but each individual tends to use the nest of but one kind. The parasitic habit in *Cuculus canorus canorus* may therefore be said to be characterized by *individual* host-specificity. In the Indo-Malayan region there are a great many genera and species of parasitic Cuckoos some of which have carried this specificity to an extreme with the result that the great majority, if not all, of the eggs are laid in nests of a single species or group of allied species. Thus the Indian Koel (*Eudynamis honorata*) lays its eggs wholly in nests of Crows and Jays. In British India it victimizes the Indian Crow (*Corvus splendens*) and the Jungle Crow (*Corvus macrorhynchos*); in Burma it foists its eggs upon the Burmese Crow, (*Corvus insolens*) and the Burmese Jay (*Pica sericea*); in southern China the victim is another Jay (*Graculipica nigricollis*). In large districts in its range practically all the individual Koels victimize the same species of bird. In other words, within each of these districts the individual host-specificity of each individual Koel is the same as that of every other one, and taking into consideration the entire range of the species the number of host species is so small and the species so closely related that the individual host-specificities of all the Koels are very similar. The parasitic habit in *Eudynamis honorata* may therefore be said to be characterized by *specific* host-specificity.

The development of specific from individual host-specificity may readily be accounted for by natural selection operating under conditions which would tend to emphasize the value of small differences. Thus, in the case of *Eudynamis honorata* the bird (and its egg) is too large to be successful with small fosterers. The Crows are everywhere common and their nests open and plainly visible and the birds (and their eggs) fairly close in size to the Koel's. An abundant, accessible group of species being everywhere available, the individual Koels having Crows as their individually specific hosts would rapidly increase and gradually eliminate their less successful fellows that depended on more precarious and more uncertain specific hosts. In time the entire membership of the species *Eudynamis honorata* would be composed of individuals parasitic on Crows.

The real problems, then, are those dealing with the origin and inheritance of individual host-specificities. This paper has to do only with the origin and not with the mode of transmission of the individual host-specificity.

During 1924 and 1925 I had the good fortune to be in Africa on behalf of the National Research Council on a special mission to study the parasitic habits of the Cuckoos, Honey-guides, and Weaver-birds with the object of comparing the parasitic habit in these groups with the similar habit in the Cowbirds of the New World. The question of host-specificity early entered into the study in-as-much as it is one of the most noticeable differences between the reproductive habits of the Cuckoos and the Cowbirds, and many and protracted observations were made in many parts of Africa in the hope of obtaining a clue as to the significance and origin of this peculiarity.

My experience with the parasitic Cuckoos of Africa is limited to the species of the following genera:—*Cuculus*, *Clamator*, *Chrysococcyx* and *Lamprolaima*. There are two other genera that are probably parasitic—*Pachycoccyx* which is extremely rare and known from only a few specimens, and *Cercococcyx*, which is also rare and local but not as rare as the other. Chapin indeed has found a young *Cercococcyx mehowi* being cared for by an adult *Turdinus fulvescens*. Of the four genera studied in the field practically all the component species were observed. No two genera



were found to have originally occupied the same ecological niche and therefore no competition for host-species existed between parasitic Cuckoos of different genera.<sup>1</sup> *Cuculus* is essentially a forest-inhabiting genus although one species *C. clamosus* is a bird of the bushveldt, and is found in the same type of country as some species of *Clamator*. The Crested Cuckoos forming the genus *Clamator* are birds of the thorny thickets and the *Acacia-Mimosa* association of the dry savannas. Just as in these larger Cuckoos we find one genus primarily sylvan and the other chiefly in more open country, so too in the smaller metallic Cuckoos the same thing holds true. The Emerald Cuckoos (*Chrysococcyx*) are entirely restricted to dense forests while the Golden Cuckoos (*Lampromorpha*), are birds of the bushveldt and of open farming country that is not entirely devoid of trees. The ecological restrictions are more fully emphasized within the individual species, than in the genera. The ecological factors affecting the ranges and habitats of the various parasitic Cuckoos necessarily limit the number of host-species available to each species of Cuckoo. In the tropics the number of species and of individuals of birds is very large and the resulting struggle for existence more intense than in the more lenient regions to the north and south. As a result of the keenness of the competition we find that similarity in habits survives side by side only (or at least chiefly) where those habits do not affect the same species. That is, a habit such as the parasitic one, could survive far more easily in many species in the same region if they did not conflict with each other than if all were parasitic on the same group of species. So then, in the bushveldt of Africa we find that the little Golden Cuckoos (*Lampromorpha*) victimize Weaver-birds, Grass-Warblers, and a few other types of birds, chiefly limiting their attention to the Weavers and *Cisticolas*. Most (almost all) of their victims build domed or covered nests, some of them on the ground. In the same districts we find that the Crested Cuckoos (*Clamator*) confine their visitations to open, arboreal nests, such as the Golden Cuckoos never molest. The Cuckoos of the *Clamator* group parasitize Bulbuls (*Pycnonotus*, *Andropadus*, etc.) almost exclusively although other similar

<sup>1</sup> This is true in a general way but exceptions do occur. However such exceptions as are found are not typical and are never very numerous.

nests are occasionally used. The largest species of the genus, *Clamator glandarius*, like the Indian Koel, has taken to laying in the nests of Crows. Bulbuls are undoubtedly too small for a large bird like *C. glandarius* and Crows suit its purpose better. Probably the evolution of its corvine specificity followed much the same lines as suggested above for *Eudynamis honorata*. Environmental influences restrict and limit the number of ecologically available host-species for each particular species of parasite. However, with a fair number of species to choose from there is no environmental reason why a certain individual parasite should further limit its range of activities by tending towards extreme host-specificity. It is not of obvious benefit to the parasite to be still further restricted in this way. It is often and erroneously stated that the degree of specificity attained is an index of the evolutionary excellence of the parasitic habit in any given species. Every field biologist knows that the more generalized, and hence more adaptable, a species remains without suffering evolutionary stagnation, the more successful that species is apt to be. Conversely it is true that the more specialized an organism tends to become the less are its chances for survival in case of environmental change. No parasitic Cuckoo in the world is as successful a species in the full biological sense as is the common Cowbird of South America (*Molothrus bonariensis*). Probably no other parasitic bird has the parasitic habit less well developed, probably none is so eminently an amateurish generalist in its habits as is this Cowbird, yet there is no Cuckoo that is able to maintain its race over so wide an area of the earth's surface with anything like the numerical status of this species. Let those who doubt this journey to Argentina and they will find, as I did, that *Molothrus bonariensis*, with all its imperfections of reproductive instincts, is second to no other bird in ubiquitousness or general abundance.

The only way to arrive at a proper understanding of the way in which host-specificities might have begun is to study individual birds as well as species. In working on the reproductive habits of birds one of the first things to be determined is the extent and definiteness of the individual breeding territories. Chance and others have done this for the European Cuckoo (*Cuculus canorus canorus*) with splendid results. In the case of the African species

of parasitic Cuckoos I found that all of them establish definite breeding territories in which they remain during the egg laying season. The males of some species, such as *Lampromorpha caprius*, *Chrysococcyx cupreus*, and *Cuculus solitarius*, are very faithful to their territories. The breeding territory in the case of a parasitic bird is based not upon a sufficiency of food for the young but upon an adequacy of nests for the eggs. As stated above the small Golden Cuckoos parasitize Weaver-birds<sup>1</sup> very frequently. A great many species of these Weavers are arboreal and build their nests in large colonies, often as many as a hundred or more nests in a single tree. I found that in several cases a pair of Didric Cuckoos (*Lampromorpha caprius*) had established their territories around trees containing colonies of Weavers and in at least four cases the territories were entirely restricted to single trees. These Weaver colonies very seldom contain more than a single species of Weaver, at least in my experience. In such cases the individual Cuckoos, by restricting their territories to single trees, automatically limit their parasitism to single species. These Weaver colonies are very common all over the African continent south of the Sahara and the Didric Cuckoos are also common and wide-spread. Therefore it seems very likely that individual host specificities are being formed in many individual Cuckoos in the way just mentioned. It is unthinkable to imagine any Cuckoo as originally going around the country-side, inspecting various kinds of nests, making notes of the dietetics of the different species, and then repairing to its favorite perch to cogitate upon its researches and finally decide to limit itself to any one of them. Specificities must have originated unpremeditated and survived because they were convenient. The fact that all parasitic Cuckoos are not specific indicates that some never went through any such experience as the Didric Cuckoo is subject to. Host-specificity is decidedly convenient to Didric Cuckoos fortunate enough to have within their territories whole colonies of suitable nests. Their territorial instincts of defence, like those of most parasitic species are faulty, and if they had to wander far afield in their search for nests the chances are they would not be able to keep any territory for themselves. That is

<sup>1</sup> *Ploceus*, *Hyphantornis*, *Otyphantes*, etc.

what seems to have taken place in the Indian Koel (*Eudynamis honorata*). In this species individual territories as such seem to exist no longer. Baker (Bull. B.O.C., xlii, March 13, 1922, p. 106) writes that the Koel, ". . . sets all Cuckoo laws in defiance; many birds breed in the same area and even in the same tree; and as many as eleven have been taken together."

It is quite easy to see how individual host-specificity could originate in a Cuckoo in the way that is taking place in the Didrie at present, but so far we have absolutely no information as to how (and if) this specificity is inherited. In the case of *Cuculus canorus canorus*, many English workers seem to incline to the idea that it is inherited through the female and that the male has little hereditary influence in this regard. Without wishing to commit myself to any theory on this subject I may say that in the case of the African Cuckoos with which I have had personal experience the fact that the male is far more faithful to the territory than is the female, coupled with the fact that the territories in many cases are the apparent predetermining causes of host specificity seems to indicate that the male may have as much influence as the female on the maintenance of the host-specificity in each case. Whether this influence is genetic or merely eutheic I cannot say.

*Department of Biology, Amherst College,  
Amherst, Mass.*

## ANOTHER "SWOOSSE" OR SWAN $\times$ GOOSE HYBRID.

BY JOHN C. PHILLIPS.

(Plate V.)

ON the accompanying plate I present some photographs of an interesting hybrid which came into my hands in September 1925. This was the product of a union between a male Black Australian Swan (*Chenopsis atrata*) and a female Canada Goose (*Branta canadensis*).

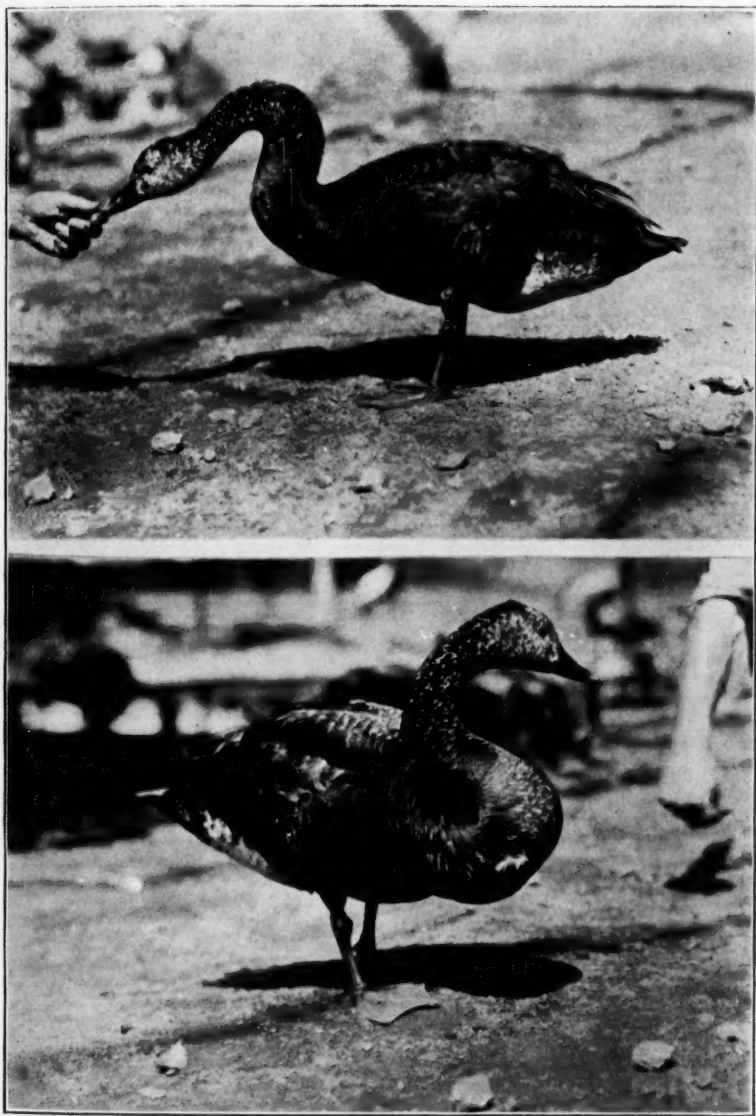
This truly astonishing bird was reared on the estate of Mr. E. R. Peirce at Wellesley Hills, Massachusetts, in the spring of 1924. The Goose hatched one young by her unusual mate (the other eggs having been removed) and this lone bird reached maturity. This unique specimen stayed around with its parents, although unpinned, until May 1925, when it suddenly departed. However, it did not get far from home but was picked up in a back-yard in Cambridge, only a few miles away and carried to the Boston Zoological Garden at Franklin Park. Mr. Peirce had already promised the bird to me, and so, during the summer, hearing that a more or less fabulous fowl had arrived from nowhere in particular, I visited the Park and found Mr. Peirce's long lost "Swoose." This was in early September 1925, when the bird was a year and a half old. A few days later I took it to Wenham, but it was then in very poor condition, little more than a bunch of feathers, and could not be induced to eat. It died in October and the skeleton is preserved in the Museum of Comparative Zoology at Cambridge.

At that time I supposed this monstrosity to be unique, but I now find that similar birds were bred in the Edinburgh Gardens and are mentioned in the 'Avicultural Magazine' for April 1918 (p. 204). Swan-goose hybrids are certainly very rare considering the enormous number of opportunities for crossing that exist in ornamental ponds all over the world. Several cases are mentioned in E. Hopkinson's 'Records of Birds Bred in Captivity' (Witherby, 1924); these include Common Swan  $\times$  Domestic Goose; Common Swan  $\times$  Hybrid Goose, and Black Swan  $\times$  Domestic Goose.

The photographs give a good idea of the appearance of the bird which was very awkward and "bow-heavy." The size was large, the bird probably weighing when in good condition far more than a Canada Goose. The voice was very peculiar indeed and seemed to consist of various notes, some of which were fine, like those of the Australian Swan, and some much coarser and louder. Unfortunately I had no chance to make any observations on this point as the bird died a few days after reaching my farm.

*Wenham, Mass.*





SWAN GOOSE HYBRID  
BLACK AUSTRALIAN SWAN  $\times$  CANADA GOOSE



## OBSERVATIONS AND BANDING NOTES ON THE BANK SWALLOW—III.

BY DAYTON STONER.

Two earlier papers<sup>1</sup> point out the conditions associated with and the major results obtained from banding studies of the Bank Swallow carried on by the writer and Mrs. Stoner in the Lake Okoboji region, northwestern Iowa, during the summers of 1923 to 1925 inclusive. The present summary of facts is concerned with our findings from further studies conducted in 1926.

Matters over which we had no control permitted only about three weeks' residence at the Iowa Lakeside Laboratory which served as our base. Between July 5 and July 21, 248 Bank Swallows were banded; of these 62 were adult and 186 were immature birds. Fourteen sub-stations were investigated of which all but four had been worked in former years. Indeed, these four small colonies which occupied roadside cuts had not been established until the summer of 1926 although all were within a mile of the nearest previously worked colony.

Practically all our observations and conclusions of preceding summers were substantiated while a few additional facts regarding the habits and behavior of these birds were obtained.

*General Remarks.* The number of Bank Swallows nesting in the region seemed to be about the same as usual. In some colonies as early as July 6, most of the young birds of the first brood were able to fly and apparently numbers of adults were mating for the second time. In other colonies where, no doubt, incubation was more or less frequently interrupted by workmen in the gravel pits, young were in the nests. However, I believe that this date represents fairly accurately the normal time of leaving the nest of first brood young and the beginning of the second mating period of the season. We found nestlings two or three days old as well as incubating birds on July 20.

One point of interest in connection with the incubating birds that we secured for banding was that the center of the lower breast

<sup>1</sup> The Auk, XLII, No. 1, 1925, 86-94 and XLIII, No. 2, 1926, 198-213.

of such birds was almost devoid of feathers so that a considerable area of bare skin was in contact with the eggs during incubation. An examination of breasts of birds of the year revealed a more thickly feathered condition of these parts.

Although Bank Swallows as a rule are fairly clean and harbor few parasites, I took a bird louse from an adult banded on July 19. The specimen was determined at the United States National Museum as *Myrsidea dissimile* Kellogg. This is the first time that I have found mallophagans on these birds although several other types of parasites have been reported previously (Auk, 1926, pp. 207-208).

One item of interest regarding the food habits of Bank Swallows was had from an incubating bird which, at the time of capture, carried in its bill a crushed two-winged fly (Diptera) and a small cicadellid (Homoptera).

Additions to our list of inhabitants of Bank Swallow burrows other than the birds themselves include the ground beetle *Harpalus pennsylvanicus* and the prairie harvest mouse *Reithrodontomys megalotis dychei*, an entire family of the latter having been discovered in one burrow.

*Repeats.* Recoveries of birds banded in the summer of 1926 are termed "Repeats" and of these three were adults while seventeen were immature birds. The following table summarizes our findings.

TABLE OF REPEATS

With one exception all were recovered in the same colony in which they were banded.

No. and Age	Date and Locality of Banding						Date of Recovery
36355A Imm.	July	7; 2 miles E.	Spirit Lake				July 9
36326A Ad.	"	6; 1 "	S.E. Arnolds Park				" 10; incubating
36369A "	"	8; 1 "	" "	" "	" "	" "	" "
36378A Juv.	"	" " "	" "	" "	" "	" "	" 14
36379A "	"	" " "	" "	" "	" "	" "	" "
36380A "	"	" " "	" "	" "	" "	" "	" "
36384A "	"	" " "	" "	" "	" "	" "	" "
36429A Ad.	"	10; "	" "	" "	" "	" "	" 15
61045A Imm.	"	14; 4 "	W. Spirit Lake				" 14
61047A "	"	" " "	" "	" "	" "	" "	" 15
61048A "	"	" " "	" "	" "	" "	" "	" "
61049A "	"	" " "	" "	" "	" "	" "	" "

TABLE OF REPEATS—*Continued.*

No. and Age	Date and Locality of Banding	Date of Recovery
61046A Imm.	July 14; 4 miles W. Spirit Lake	July 15
61066A "	" " 3½ " " " "	" "
61070A "	" " " " " " " "	" " and 17
61072A "	" " " " " " " "	" " " "
61073A "	" " " " " " " "	" "
165401 "	" " " " " " " "	" " and 17
61016A Fledg.	" 12; 1 " S.W. Milford	" 19
61017A "	" " " " " " " "	" "

*Remarks on the Table.* All the birds mentioned in the foregoing table except Immature No. 61045A were recovered in the colonies where they were originally taken. This bird, one of a family of three, was banded at 8.05 A.M. Two hours and thirty-five minutes later it was recovered from a burrow in a colony a half-mile from the one in which it was first captured.

Twenty-four hours after banding Immature Nos. 61047A, 61048A and 61049A they were recovered together in the same gravel pit but from a different burrow.

Fledgling No. 61017A was recovered from a burrow adjacent to the original one seven days after it was banded.

From the above and other data at hand it seems evident that young birds, once they are able to fly, change their abodes frequently often wandering some distance from the parental burrow on the first flight. After flight ability is attained, young from two or more broods may temporarily inhabit a burrow in which none, or one or more of them was reared. That is to say, family ties are likely to be broken after the first flight and a given brood loses its identity.

*Returns.* No less than 1424 young and adult Bank Swallows have been banded in this region since 1923. From the 1176 birds banded up to the beginning of the 1926 season, fourteen individuals have been recovered as "Returns." One of the birds banded in 1923 was recovered in 1924;<sup>1</sup> five of those banded in 1924 were recovered in 1925,<sup>2</sup> while in 1926, eight individuals from 1924 and 1925 bandings were recovered. These latter records, together

<sup>1</sup> The Auk, XLIII, No. 2, 1926, 201-202.

<sup>2</sup> *Ibid.*, 209-210.

with certain details relating to them seem worthy of further consideration.

No. 244983. Juvenal; fully fledged; one of a family of five; banded July 5, 1924 in a gravel pit two miles east of the town of Spirit Lake. Recovered, July 10, 1926 in a gravel pit one mile southeast of Arnolds Park and about seven miles distant from the place in which it was originally banded. The bird was nesting on the date of its recovery.

No. 24692A. Juvenal; able to fly; one of a family of six; banded July 9, 1925 in a gravel pit one mile southeast of Arnolds Park. Recovered July 14, 1926 in an adjoining pit about fifty yards from the original banding locality. The bird was incubating on the day of recovery.

No. 24766A. Juvenal; able to fly; one of a family of five; banded July 10, 1925 in a gravel pit one mile southeast of Arnolds Park. Recovered July 14, 1926 in a gravel pit one mile southwest of Milford and about three miles from the place of original banding. Just previous to recovery the bird had flown into a burrow where it was incubating what was possibly a second clutch of eggs for the season.

No. 8173A. Adult; another adult bird together with a family of young in the nest; banded June 22, 1925 in a gravel pit two miles east of Spirit Lake. Found dead July 9, 1926 in a gravel pit about 150 yards north of the one from which it was originally banded. The body of the bird was partly decayed, three or four days probably having elapsed since death which may have been caused by injuries sustained in the falling away of the face of the bank. This seems to be a prolific source of destruction among these birds. The bird had returned, possibly to breed, to approximately the same place in which it had reared a brood the preceding season.

No. 8545A. Adult; taken from a burrow occupied also by another unbanded adult in a roadside gravel pit one mile west of Milford, June 25, 1925. Recovered in a gravel pit three-fourths of a mile southwest of the place of original banding on July 19, 1926. Incubating at time of recovery.

No. 8588A. Fledgling; one of a family of five occupying a burrow in a gravel pit two miles east of Spirit Lake; banded June 27, 1925. Recovered July 14, 1926 from a burrow in a roadside cut



about five miles west of Spirit Lake. Bird incubating on date of recovery.

No. 24535A. Fledgling; one of a family of five occupying a burrow in a gravel pit three miles northeast of Spirit Lake; banded July 2, 1925. Recovered as a breeding bird in a gravel pit one mile southeast of Arnolds Park and about nine miles distant from the place of original banding.

No. 24736A. Fledgling; one of a family of five occupying a burrow in a gravel pit one mile southeast of Arnolds Park; banded July 9, 1925. This bird was recovered from the same burrow along with three others of the family on July 17 of the same year. On July 8, 1926 it was again recovered in a gravel pit about fifty yards north of the one in which it was reared; on this occasion it had a family of young in the nest. Both bird and band were in excellent condition.

*Remarks on Returns.* A little more than 1% of all the birds banded have furnished returns. Of the total number of returns thus far obtained (14), only five were banded as adults, and of these one was recovered dead. These facts suggest a high mortality rate in this species.

Further, it seems that very few birds return to breed in the *exact* locality in which they were reared although a somewhat greater proportion returns to the *general* region. In only one case has a return bird been taken in the burrow from which it was banded.

*University of Iowa, Iowa City, Iowa.*

VERMIVORA CHRYSOPTERA MATED WITH  
VERMIVORA PINUS.

BY WYMAN RICHARDSON, M.D.

The occurrence of the Blue-winged Warbler in Massachusetts is sufficiently rare to cause comment. Horace W. Wright<sup>1</sup> mentioned six recorded observations of the bird in Massachusetts, and reported the nesting of a pair in Sudbury, Mass. Four of these six were quoted from Howe and Allen's 'Birds of Massachusetts,' one from Wells W. Cooke's 'Distribution and Migration of North American Warblers'; and one is reported by Guy Emerson.<sup>2</sup> Since 1909 there are several published records: Tyler<sup>3</sup> in 1913; Faxon<sup>4</sup> in 1913; Allen<sup>5</sup> in 1919. Mr. Wright and I caught a glimpse of a Blue-winged Warbler in 1919, near the old nesting site of 1909. I have the impression that this bird is becoming more abundant in Massachusetts; but it may be that the increased number of observers accounts for this impression.

With regard to the nesting in Massachusetts of the Blue-winged Warbler, Wright's published record is the only one I can find, with the exception of the interbreeding reported by Faxon, and mentioned below.

The interbreeding of the Blue-winged and Golden-winged Warblers has been reported several times. Once by Jno. H. Sage<sup>6</sup> in 1889 from Portland, Conn.; once by Jesse C. A. Meeker<sup>7</sup> in 1906 from Danbury, Conn.; and once, by Walter Faxon<sup>4</sup> in 1913, from Lexington, Mass. Interbreeding between Brewster's, or rarely Lawrence's and either the Blue-winged, or Golden-winged, is more commonly reported: Granger,<sup>8</sup> Boston, Mass., 1907, Sherman,<sup>9</sup> Roslindale, Mass., 1910; Carter and Howland,<sup>10</sup> Wyandotte,

<sup>1</sup> Auk, 1909, p. 337.<sup>2</sup> Auk, 1902, p. 291.<sup>3</sup> Auk, 1913, p. 435.<sup>4</sup> Mem. Mus. Comp. Zool., Aug. 1913.<sup>5</sup> Auk, 1919, p. 292.<sup>6</sup> Auk, 1889, p. 279.<sup>7</sup> Auk, 1906, p. 104.<sup>8</sup> Auk, 1907, p. 343.<sup>9</sup> Auk, 1910, p. 443.<sup>10</sup> Auk, 1923, p. 423.

New Jersey, 1922; Chapman,<sup>1</sup> Englewood, N. J., 1887, and 1892; Beebe,<sup>2</sup> New York City, 1903; Sage,<sup>3</sup> Portland, Conn., 1894; Faxon,<sup>4</sup> Lexington, Mass. Faxon has published numerous reports regarding the annual interbreeding of these birds in Lexington, Mass.

The purpose of this communication is to report the breeding of a male Golden-winged Warbler with a female Blue-winged Warbler in Newton Center, Mass. I can add nothing to the controversy over the origin of Brewster's Warbler; but the fact of the interbreeding itself seemed worth of record.

Every morning during the spring migration, I take a short census of the birds on my two, and the adjoining two acres of the rather overgrown bushy, cedar and hickory besprinkled country on Dudley Road in Newton Center, Mass. On May 19, 1926, I caught a glimpse of a Blue-winged Warbler. A male Golden-winged Warbler, which had been constantly present for about ten days, immediately gave chase, whether in a spirit of warring or wooing I could not tell, and both birds disappeared in the shrubbery.

The Blue-winged Warbler was again seen the next day. The plumage was typical of *Vermivora pinus*. Because of the slight dullness of coloring and the lack of song, I assumed the bird to be a female.

On May 22, the bird was again seen, this time in company with the male Golden-winged. The latter appeared to be an absolutely typical male *Vermivora chrysoptera*. Although he frequently sang both the songs of this species he more usually chose the common, slow, insect-like variation. The Blue-winged soon appeared with nesting material in her beak. Finally, I watched her drop to the ground for a moment, and the nest was found.

The nest on this day was nearly completed. It formed a deep cup, with its base on the ground, in a rather dense border along a stone wall, and was composed of leaves, and bits of cedar bark, and lined with grass. It differed in no way from the usual descriptions.

<sup>1</sup> Auk, 1887, p. 348; 1892, p. 302.

<sup>2</sup> Auk, 1904, p. 387.

<sup>3</sup> Auk, 1895, p. 307.

<sup>4</sup> Mem. Mus. Comp. Zool. Aug., 1913.

On May 25 the nest was probably completed. May 27 the first egg was laid. It was colored a very pale blue, lightly spotted, and very pointed on one end. An egg was laid every day after this, always before nine o'clock, until a total of six was reached. On May 28, what appeared to be the act of coitus between the two birds was observed. The last egg was laid June 1, and setting began the next day. The young appeared on June 14, an incubation period of 13 days.

During the nestling period, as luck would have it, my work kept me extremely busy, and I had little time for observation. I watched both parents feed the young, bringing the apparently inevitable small green caterpillar. I could distinguish nothing remarkable about the young birds. They all looked alike although the light was always poor.

On the morning of the ninth day, the nest was empty. No sign either of parents or young has since been found, in spite of protracted search.

I was therefore keenly disappointed not to have been able to follow the young birds through to their first full plumage, in order to determine the type of hybrid produced. I can only hope that the birds will make this region a regular breeding place, as Mr. Faxon's birds have done in Lexington. On looking back, I feel that we should have banded the young birds, though I feared at the time that we might by so doing, permanently drive away the parents.

I have, therefore, nothing to add to our knowledge of this interesting group of birds, except to record another instance of known interbreeding between the two species, *Vermivora chrysoptera* and *Vermivora pinus*.

229 Dudley Road, Newton Centre, Mass.

THE MIGRATION OF YOUNG NORTH AMERICAN  
HERRING GULLS.<sup>1</sup>

BY FREDERICK C. LINCOLN.

The Herring Gull (*Larus argentatus*) as a species is circumpolar in its distribution and has been banded in large numbers both in Europe<sup>2</sup> and America. There is, however, no evidence of one of these birds having crossed the ocean from either side; in fact, individuals following transoceanic liners have been observed to turn back when not more than 25 miles at sea. In Europe these birds breed south to northern France and in North America to north central New York, southern Ontario, central Michigan and Minnesota, southern Manitoba, and central British Columbia.

The data here considered consist of 143 returns from a total of 5,462 banded Gulls including those marked during the present (1926) season. These represent birds banded chiefly by W. S. McCrea, W. E. Hastings, and the writer in the Beaver Island group in northern Lake Michigan; at several islands in the vicinity of Green Bay, Wisconsin, by W. I. Lyon and Harold C. Wilson; at islands in the Straits of Mackinac, by W. I. Lyon and George W. Luther; at Gull Island, Lake Huron, by Dr. R. M. Strong; at Four Brothers Islands, Lake Champlain, by H. F. Perkins; at Matinicus, Maine, by F. H. Allen and Dr. C. W. Townsend; at Bonaventure Island, Quebec, by W. M. Duval; in Temiscouata County, Quebec, by D. A. Dery; in Saguenay County, Quebec, by Harrison F. Lewis; and at Wood Island, Grand Manan, New Brunswick, by Ernest Joy.

<sup>1</sup> Presented at the 44th Annual Meeting of the American Ornithologists' Union, at Ottawa, Ontario, on October 14, 1926, and before the Biological Society of Washington, on December 18, 1926.

Grateful acknowledgment is made to Dr. Frank N. Wilson, of the University of Michigan, Ann Arbor, Michigan, for the loan of his motion-picture film made at the Beaver Islands, which was used, together with lantern slides, to illustrate this paper on both presentations.

<sup>2</sup> An important paper presenting the results obtained from banded Herring Gulls in Great Britain, by A. Landsborough Thomson, in 'British Birds,' vol. XVIII, No. 2, July 1, 1924, pp. 34-44, includes also a summary of European records for this species from other sources. The longest flight for which data were available was a distance of 730 miles.



It is not possible from these data to draw definite conclusions concerning the movements of the species on this continent, because of the fact that almost without exception the banded birds were marked as fledglings. Available evidence indicates that Herring Gulls are not sexually mature until at least their second year, and the probability is strong that they are three or possibly four years old before they breed for the first time. A discussion of their movements based upon the returns from banded birds obviously will be inconclusive until the existing material contains adequate records of fully adult birds. Despite the fact that extensive banding operations with the species have been in progress for four years, there are relatively few recaptures of birds two years or more of age at the time of recovery.

As with many other species more attention needs to be given to the banding of adults. This will present challenging problems to even the most ingenious bird bander, for despite their seeming fearlessness around wharves and fish docks adult Herring Gulls possess an uncanny wariness when it comes to approaching traps. The present paper is not intended as a discussion of ways and means to accomplish this result, but it seems worth while to direct attention to the trap developed by Jack Miner, of Kingsville, Ontario, for the capture of Crows, and to suggest the possible use of this device for the extensive banding of adult Gulls. These birds could probably be captured also by means of powerful flashlights at their breeding colonies during the incubation period.

As the total number of returns includes more than 50 birds banded by the writer at the Beaver Islands in northern Lake Michigan, the data from that point will be used as criteria in the belief that records from other points fill their most important rôle as supporting evidence.

To obtain a true concept of the first movements of these birds it is necessary to consider the returns for each season, taking first those reported as recoveries between the time of banding and the first of the year next ensuing. (See Table I and Fig. 1.)



TABLE I.—*Returns of Herring Gulls banded at Beaver Islands, Michigan, and Recovered by the first of the ensuing Year.<sup>1</sup>*

Number	Date of Banding	Date of Recovery	Place of Recovery
202213	July 16, 1922	Jan. 18, 1923	Wickliffe, Ky.
202237	"	Nov. 30, 1922	Ennis, Texas.
202248	"	Jan. 12, 1923	Brunswick, Ga.
231343	July 22, 1923	Nov. 11, 1923	St. Ignace, Mich. (40 mi. W.)
231393	"	Sept. 9, 1923	Montreal, Que.
23682-	"	Dec. 12, 1923	East Jordan, Mich.
236807	"	Sept. 10, 1923	Toronto, Ont. (15 mi. E.)
236829	"	Jan. 12, 1924	Angola, N. Y.
236834	"	Nov. 25, 1923	Saginaw Bay, Mich.
236853	"	Sept. 25, 1923	St. Ignace, Mich.
236859	"	Sept. 1, 1923	Northport, Mich.
236861	"	Sept. 27, 1923	Petoskey, Mich.
236925	July 24, 1923	Nov. 3, 1923	Alpena, Mich.
236927	"	Oct. 7, 1923	Houghton Lake, Mich.
236993	July 25, 1923	Nov. 7, 1923	Lake Nipigon, Ont.
237013	"	Dec. 7, 1923	Kenosha, Wis. (20 mi. S.)
237022	"	Dec. 7, 1923	St. Marys River, Mich.
237047	"	Dec. 10, 1923	Near Hovland, Minn.
237062	"	Sept. 27, 1923	Port Austin, Mich.
237078	"	Oct. 20, 1923	Manistee, Mich.
237150	"	Nov. 1, 1923	Calumet, Mich.
237170	"	Oct. 31, 1923	Trout Lake, Mich.
321025	July 18, 1924	Dec. 7, 1924	Spring Bay, Ill.
321027	"	Sept. 29, 1924	Bead Id., Lake Superior, Ont.
321041	"	Dec. 10, 1924	Charlevoix, Mich.
321138	July 20, 1924	Sept. 4, 1924	Manistique, Mich.
321148	"	Sept. 15, 1924	Montmorency Village, Que.
321211	"	Dec. 6, 1924	Riverton, Delaware River, N. J.
312884	June 24, 1925	Jan. 2, 1926	Maumee River, Ohio.
378978	July 7, 1925	Fall of 1925	Riv. au Renard, Gaspé Co., Que.
378090	"	Jan. 20, 1926	Two Rivers, Wis. (1 mi. S.)
385520	June 27, 1925	Oct. 11, 1925	Washington Id., Wis.
385537	"	Sept. 26, 1925	Ashtabula, Ohio (4 mi. W.)
385595	"	Oct. 21, 1925	Georgian Bay, Ont.
385656	July 2, 1925	Sept. 4, 1925	Port Hope, Ont.
385661	July 3, 1925	Dec. 9, 1925	Jerusalem, Ohio.
385697	"	Oct. 14, 1925	Copper Cliff, Ont.
385766	"	Nov. 4, 1925	Renfrew Co., Ont.
385785	"	Jan. 1, 1926	Presque Isle Peninsula, Erie, Pa.

<sup>1</sup> In some cases the date of recovery can not be given serious consideration as the letter of advice frequently indicated that the bird had been dead for several days. Dates later than December 31 in this table, are instances of this kind.

TABLE I.—*Continued.*

<i>Number</i>	<i>Date of Banding</i>	<i>Date of Recovery</i>	<i>Place of Recovery</i>
385789	July 3, 1925	Dec. 1, 1925	Sandusky Harbor, Ohio.
385834	"	Dec. 4, 1925	Parent, Champlain Co., Que.
385869	July 3, 1925	Nov. 23, 1925	Lake Big Butte des Morts, Wis.
385946	"	Dec. 18, 1925	Metuchen, N. J.
386086	July 8, 1925	Sept. 22, 1925	Montreal, Que.
386154	"	Aug. 18, 1925	Alpena, Mich.
386159	"	Dec. 9, 1925	Holbrook, Pa.
386240	"	Sept. 1, 1925	Detroit Harbor, Wis.
386249	"	Nov. 11, 1925	Ludington, Mich.
386299	"	Dec. 18, 1925	Alvin, Tex. (25 mi. S.)

During the first season (1922) a relatively small number of birds were banded and only three returns were reported. These are, however, from such widely separated localities (Texas, Kentucky, and Georgia) as to leave but little doubt that there was a more or less general southward movement of Gulls from the Beaver Islands in the fall of that year. The next season (1923) a large number of birds were marked, and 19 returns were reported before or around the first of the succeeding year. Thirteen of these were from points in Michigan, the most southern being a locality in Saginaw Bay. Of the remaining six, one was from near Lake Nipigon, Ontario; one from the north shore of Lake Superior; one from the vicinity of Kenosha, Wisconsin; one from near Toronto, Ontario; one from the St. Lawrence River near Montreal, Quebec; and the other from the shore of Lake Erie near Angola, New York. These show for that season a decided absence of southerly movement, the majority of the "gray" Gulls evidently wandering about in the general area where they were banded, while a few others drifted off to almost all points of the compass.

On account of an early season the number of birds banded during 1924 was small, the majority of the young birds being on the wing at the time banding operations were begun. Six returns, obtained before the first of the year, seem to indicate an easterly or northeasterly movement, although one was taken on the north shore of Lake Superior in Ontario and another at Spring Bay in north-central Illinois. The easternmost records in this group are for two birds, one of which was reported from the St. Lawrence River at

Montmorency Village, Quebec, and the other from the Delaware River, west-central New Jersey.

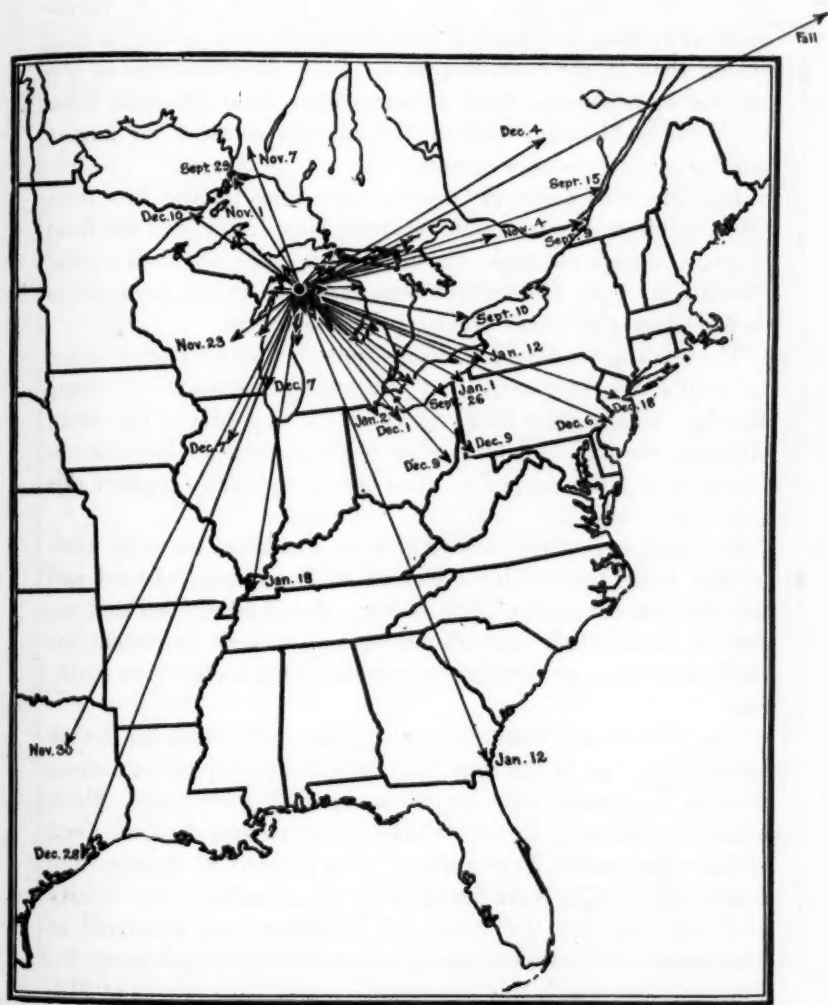


FIG. 1.—Map showing dispersal of young Herring Gulls from the Beaver Islands, Michigan, between the time of banding and the first of the ensuing year.

In 1925 the colonies were reached early in the season so that many young were banded and 21 returns were reported before the first of the ensuing year. These records indicate that the movement away from the breeding area was much more general in that season than in the preceding year. Fully three-quarters of the returns were reported from distances more than 200 miles from the point of banding, while this group also contains the largest number of long-distance returns.

Four are from points in Ontario, three from Quebec, four from Ohio, two from Pennsylvania, one from New Jersey, and one from Texas. Almost all these distant records were obtained during December. Only two returns were for more or less local points in Michigan while three others are for Wisconsin.

The evidence of these fall records from the Beaver Islands seems to justify the statement that southward migration of young Herring Gulls in their first year is limited to a part of the birds, although the flight made may be of great length. Returns obtained from birds marked at other points appear to support this statement. (Fig. 2.)

For 1923, only three such records are available, the most noteworthy being two for birds banded at Bonaventure Island and recovered on the coast of New Jersey. It will be recalled that the Beaver Island Gulls showed almost no southern movement for 1923, such flights as were extensive being to the northeast or southeast.

The 1924 records from other points outnumber those for Beaver Island birds, but in the main they tend to support the statement that in that season only limited movements were made. Birds banded in Saguenay County, Quebec, were recovered on the coast of Labrador and in Newfoundland; one marked on Bonaventure Island was found in Nova Scotia, while those marked in the vicinity of Green Bay and the Straits of Mackinac were recovered at comparatively short distances as late as the following January 13. The bird upon which this last record is based was caught at Milwaukee, Wisconsin, as it was eating a mouse on a garbage truck. It was turned over to the local zoological park.

In this group of records there are, however, three that showed long-distance flights, all from the Green Bay area. One was to

southwestern Illinois; the second to Lumberton, Mississippi; and the third to Lake Iamonia in northern Florida.



FIG. 2.—Returns of young Herring Gulls, banded at points other than the Beaver Islands, and recovered by the first of the ensuing year.

The 1925 records in this class closely parallel similar returns for



that year from the Beaver Islands, in that they show great dispersal and a few long flights. Three Herring Gulls, banded at Lake Champlain, flew north, one reaching the Gaspe Peninsula; those banded on the coast of Quebec were taken on the Labrador coast, in Nova Scotia and Newfoundland; two banded at Matinicus, Maine, were recovered from more northerly points on the mainland; while two from the Green Bay region and the Straits of Mackinac were taken on the coast of North Carolina and in the Vermilion Bay area of Louisiana.

From the foregoing accounts of young Herring Gulls banded at the Beaver Islands and at other points and recovered between the time of banding and the first of the following year, the evidence of migration indicates erratic flights during the early part of the season, when the most remarkable feature is the tendency of some of these birds to drift northward in a manner comparable to the well-known post-nuptial migrations of certain Herons. The records for the last month of the year, however, indicate a more or less general southward movement.

In the next group of returns, those received between the first of the year and the following midsummer, there is definite evidence of spring and fall migrations. (See Table II and Fig. 3.)

TABLE II.—*Returns of Herring Gulls banded at Beaver Islands, Michigan, and Recovered between the first of the ensuing Year and the following Midsummer.*

<i>Number</i>	<i>Date of Banding</i>	<i>Date of Recovery</i>	<i>Place of Recovery</i>
237035	July 25, 1923	Apr. 2, 1924	Maple Id., on Mississippi River near St. Louis, Mo.
237151	"	Apr. 20, 1924	Grand Rapids, Mich.
321168	July 20, 1924	Apr. 10, 1925	Tampico, Mex. (30 mi. N.).
312893	June 24, 1925	May 12, 1926	Gasparilla Id., Fla.
321003	July 18, 1924	June 20, 1925	Chanderleur Id., La.
378071	July 3, 1925	May 16, 1926	Waseca, Minn.
378095	July 8, 1925	May 22, 1926	Coin, Iowa.
385667	July 3, 1925	Mar. 27, 1926	Victoria Co., Tex.
385728	"	Jan. 17, 1926	Tuxpan Bar, Vera Cruz, Mex.
385786	"	Feb. 10, 1926	Alvarado, Vera Cruz, Mex.
386047	July 8, 1925	Apr. 3, 1926	Ottumwa, Iowa.
386090	"	Apr. 9, 1926	Hurricane Id., Ill.
386106	"	Mar. 1, 1926	New Madrid, Mo.
386191	"	Apr. 6, 1926	Niagara River, N. of Youngstown, N. Y.



During this period no returns were reported for the regions con-

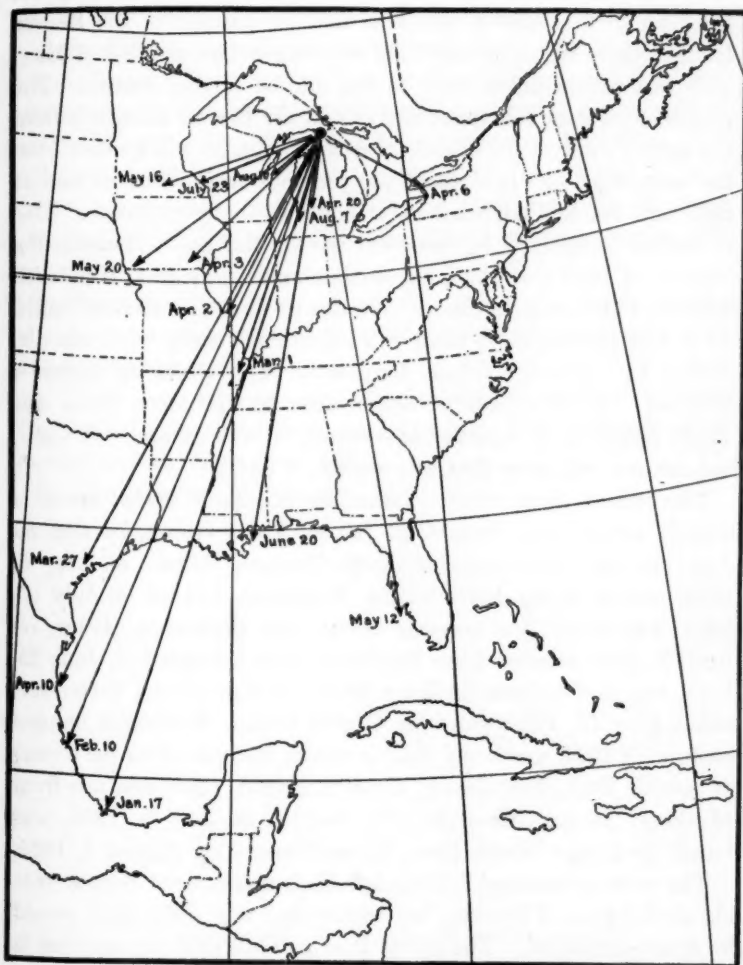


FIG. 3.—Map showing recoveries of young Beaver Island Herring Gulls, reported between the first of the ensuing year and the following midsummer.

tiguous to the breeding areas before the first of April. One bird from the Beaver Islands passed south to Tuxpan Bar, Vera Cruz,

Mexico, where it was taken on January 17. Another was killed at Alvarado, also in the State of Vera Cruz, on February 10. Between these southern extremes and the latitude of the Beaver Islands, there are eight records of recovery before the first of May, with two others taken close to the middle of that month. The period of greatest colonizing activity at the Beaver Islands is from the first of June to the middle of August, but, as will be seen from the map, none of the birds of the previous season's hatch had at that time reached latitudes as far north as their birthplace. This is further supported by observations in the field. During the seasons of 1924 and 1925, the author made numerous trips with fishermen out from St. James, in order to watch for banded Gulls. As is well known, these birds will follow such boats to obtain discarded bait or other refuse, frequently approaching to within a few feet. From a post of observation on the stern there was ample opportunity to scrutinize closely a large number of Gulls, but not one was seen that was wearing a band.

The records from other colonies for this same period are of a similar nature: one from Gull Island, Lake Huron, banded on July 11, 1924, was taken at South Chicago, Illinois, on May 5, 1925; one from Big Sister Island, Wisconsin, banded on July 17, 1924, was found (but recently dead) near Beaumont, Texas, on April 7, 1925; another from Big Sister Island, banded on June 25, 1924, was shot by mistake for a Hawk, at New River, Tennessee, about May 12, 1925; one from Gravel Island, Wisconsin, banded on July 20, 1924, was found dead (a victim to crude oil on the water) at Seaside Park, New Jersey, about August 8, 1925; and one from Muskeget Island, Massachusetts, banded on July 9, 1925, was found dead near Woods Hole, Massachusetts, on August 7, 1926.

The returns received for banded birds much more than a year old at the time of recovery are so few that any deductions would be most premature. The oldest Herring Gull thus far reported is one banded on August 24, 1923, at Wood Island, Grand Manan, New Brunswick, and found dead near Quogue, Long Island, New York, about July 7, 1926. A few Gulls, which at the date of recovery would be about a year and a half old, were taken in the general vicinity of their original colony, but the dates are all well after the close of the breeding season.

#### CONCLUSIONS.

From the foregoing account, the following conclusions regarding the movements of young Herring Gulls, seem to be warranted:

1. The first distance flights of the young birds after leaving their colonies can not be considered as true migration; they are more nearly comparable with the northward post-nuptial movements of certain Herons. The dispersal is, however, in all directions.

2. Later in the season, about the first of the year, many of these birds move south, probably covering long distances in short periods of time. The extent of such flights may be as far as east-central Mexico.

3. The return movement for the first spring likewise is erratic, some birds traveling north toward the colony sites and others remaining in the south.

4. There is no evidence that any considerable number of young Herring Gulls return to their original colony sites to breed before they are at least three years old.

*Biological Survey, Washington, D. C.*

REMARKS ON KAEMPFER'S COLLECTIONS IN EASTERN  
BRAZIL.

BY ELSIE M. B. NAUMBURG.

Mr. Ernst Kaempfer and his wife have been in Brazil since the month of December, 1925, and up to the present time of writing have sent approximately 3500 skins to the American Museum of Natural History.

A continuous revolution throughout the region where collecting was in progress from the very beginning, delayed a trip that had been planned to Piahy, Therezina, and as late as April 1926, Mr. Kaempfer was still in Maranhão from which place he sent us much valuable material. Particularly interesting is his description of a trip to the left bank of the Parnahyba River.

The Parnahyba separates the province of Piahy and Maranhão and enters the Atlantic by several mouths. This river is a very long one and the total course is estimated at about 750 miles. Though the hardships at this time, due to lack of food, were very severe, the collector found himself in a region particularly rich in specimens of Woodpeckers and Woodhewers; a dry region, slightly hilly, crossed by many streams and containing but little dense forest. Here were large areas of Chapada country where cactus and other spiny plants are common and the countryside is covered with small boulders.

We have at least five species or more of Woodpeckers from this region, such as *Campephilus melanoleucus*, *Crocomorphus flavus*, *Celeus ochraceus*, *Melanerpes candidus*, and *Colaptes campestris*; some small Doves, such as *Claravis pretiosa*, *Uropelia campestris*, *Columbula picui* and *Columba picazuro*.

*Taenioptera velata* is quite common. The local name for this Flycatcher is the Portuguese "lavendera," laundress, which appears to be applicable, as the species is usually found near the water. When feeding it stands quite still, looks around and then having seen an insect it attacks its prey with a rush. The bird was quite common on the shores of the Parnahyba and the Itapecurú, a river in the Province of Maranhão which after a northward course

of upwards 400 miles joins the river São José, south of the Island of Maranhão. On this river Mr. Kaempfer saw thousands of specimens of the Parrot, *Aratinga jendaya*. They were seen in bands of thirty or more crossing the river and making a loud noise.

From Therezina, the capital of Piauí, on the left bank of the Parnahyba, the collector writes: "It is interesting to note that the natives in Piauí well know how to distinguish formicarians from other birds by their song. They call them by a queer name which means "weeper" in English. The word is simply an onomatopoeitic imitation of the song. In this region Mr. Kaempfer saw the Cuckoo, *Crotophaga major*, for the first time, a flock of about ten birds.

A letter dated June 20, gives us the names of various collecting stations, such as Rosario, a town on the Itapecurú, and Catharina, a small hamlet one hour's walk from Therezina. At this point shipping became difficult, as everything had to be sent *via* river steamers to Parnahyba, while from the upper Parnahyba communication was even worse.

Collecting was done extensively on both sides of the Parnahyba River at São Luiz, ninety kilometers from Therezina, on the Maranhão shore, about one kilometer inland, and at Bello Horizonte on the Piauí side.

Here again there were uprisings and revolutions. So from Floriano on the Piauí side the collector went to São Joas dos Patos in Maranhão, situated about 700 meters above sea-level. Piauí was now invaded by rebels and all facilities for going up the river had stopped.

At this point Mr. Kaempfer writes: "There will be no other steamer until the rebels are chased away and new rains fill the river with water." Conforming with further instructions from me, Mr. Kaempfer proceeded into the Sierra region of Nova York, the highland region which separates the waters of the Itapecurú and the Parnahyba rivers.

The first stop was at Porto Seguro near Nova York, on the Parnahyba River. From this locality I had a letter dated August 29, 1926. This was a most difficult journey, and just two months later I was sorry to learn that Mr. Kaempfer was very ill owing to the hardships he had endured in the Sierra region.



Though not entirely restored to health and having had to interrupt all activities for several months, Mr. Kaempfer on December 4, 1926, announced his intention of collecting in Ceará, as previously arranged. In January of this year, 1927, we received letters from Recife, and the Rio Branco in Pernambuco. The region of the Rio Branco is partly hilly and forms a portion of the mountains that fill the whole interior of Pernambuco. At a lower altitude in Pernambuco, at Palmiras, the country belongs to the coastal region and has fine moist forest land, and Mr. Kaempfer comments in a letter on the great floral difference between the northern and southern parts of Pernambuco. He seems to believe that the limits of the northeastern dry region of Brazil run somewhere through Pernambuco.

The next region in his itinerary was southern Piahy, and from there to Joazeiro in the province of Bahia, on the Rio São Francisco. The São Francisco is one of the large and important rivers of Brazil which rises in the province of Minas Geraes, flowing north, north-east and east.

The first collecting station in Bahia, was the Cidade do Rio Grande at an altitude of 1400 feet, then along the north shore of the Rio Grande and on the islands off the shores of the Rio Grande and São Francisco, and along the sand banks of each river.

The Blue-bearded Jay, *Cyanocorax cyanopogon*, was a quite common species in this region living in small flocks easily caught in traps when baited with corn.

The Flycatcher, *Taenioptera irupero*, was seen though not very often in the sandy open country. In the region where there were pools and lagoons Mr. Kaempfer saw the Ibis, *Phimosus nudifrons*.

Remanso, in Bahia, at 1300 feet was the next center for collecting. This region is far more humid than the region of Joazeiro. The river is very broad here and there are many islands. A large portion of the lowland was inundated. There are many species of water birds recorded from here, but only in the dry season. On an inland lagoon a few miles from Remanso the collector saw Storks, Spoonbills, and various species of Ducks. There is no dense forest here, but large stretches of open country covered by catinga and a low spiny growth.

The Flycatchers, *Muscivora tyrannus* and *Taenioptera irupero*,



were taken here. Both species are good fliers and according to Mr. Kaempfer they seem always to be quarreling. They sit on the low spiny vegetation causing the long tail feathers to become much worn.

Joazeiro, on the north shore of the River São Francisco in the Province of Bahia was a collecting station about 1000 feet above the level of the sea. This region appears to be one of the least attractive seen by Mr. Kaempfer on the entire journey. The vegetation consists of low underbrush and there are stretches of open campo country covered with grass. At this point the River São Francisco is very wide and on its swampy shores Mr. Kaempfer collected many Herons such as *Egretta candidissima*, *Florida caerulea*, *Casmerodius egretta*, and *Ardea cocoi*. He also sent us from here *Jacana* spp. *Gallinula galeata*, and *Ionornis martinica*.

From Santa Rita do Rio Preto in Bahia near the hilly boundary of Piahy Mr. Kaempfer writes: "Our present collecting station is just wonderful. We have seen a great many Parrots, three kinds of Aras, many water birds, Storks, Woodpeckers, and last but not least the Oven-bird, *Megaxenops paranaguæ*." This bird was discovered by Reiser at Paranagua (towards Olho d'Agoa) in Piahy, twenty-four years ago and has been seen by no one since.

This is the most important result of our expedition to Brazil, just as it was for Mr. Reiser in 1903 when he went to northeastern Brazil under the direction of Dr. F. Steindachner. These two specimens a male and a female, the only ones in existence at the time, were seen by me in the Vienna Museum in 1922, and their numbers in that collection are 875 and 881. Seeing these birds drew my attention to the importance of collecting in this region and led me to instruct Mr. Kaempfer to find them if he possibly could. I have since heard that Dr. Snethlage has recently sent two specimens to Dr. Hellmayr.

In the reddish brown color and the white throat-patch this species resembles the Woodhewer *Furnarius albicularis*, though in size and general aspect it is also near the Long-billed Wren, *Thryophilus*. It differs from the Oven-bird *Xenops* in being considerably larger and also in color. The third, fourth and fifth primaries are the longest and nearly equal, the second is shorter than the sixth and equals the seventh. The primaries are grayish brown edged

with russet on the outer edge and the rectrices are not spiny but soft and reddish brown with broadly rounded tips. Our specimens were taken at Corrientes in southern Piauhý not far from Paranaguá where Reiser's were collected.

The trip in southern Piauhý was continued to Gilbues, a two days' horseback ride from Corrientes, then on to Pindahyba. All these localities are situated in a hilly, rocky country with many creeks and rivers which in the dry season are entirely dry or very shallow. It is what the famous German botanist Ule calls "Mountain shrub steppes" or "Bergstrauch steppen" and *Megaxenops paranaguæ* belongs to this region, and is characteristic of it. From this region we also have a small series of the very rare Parrot, *Amazona xanthops* also collected by Reiser in 1903. I remember seeing the typical bird from the interior of Minas Geraes and my notes say that it was considered a rare species, as it was never seen in the large collections. I believe our specimens from Piauhý differ from the typical bird in having a smaller bill and may therefore possibly be regarded as a subspecies. The single mature specimen has the entire head and breast, abdomen and flanks bright orange-yellow. At Pindahyba in southern Piauhý, a locality near those before mentioned there was a large swamp, where Macaws in all colors were plentiful. On one occasion the noise of the frightened mules startled the big Blue Macaws, *Anodorhynchus hyacinthus*, out of their sleep and in a few moments the whole swamp was alive with hundreds of these great Parrots flying about. We have received several of these specimens. Natives collecting live birds say that the big Blue Macaw nests in holes in the sides of mountains, while the Yellow-breasted *Ara ararauna* nests on the top of dead Burity palms.

I should mention also a series of interesting Cowbirds taken in Bahia at Barra, at an altitude of 1400 feet. Mr. Friedmann puts them in the genus *Agelaioides*, of which there are two species *Agelaioides badius* and *Agelaioides fringillarius* described by Spix.

Dr. Hellmayr<sup>1</sup> has also described a race of *badius* from the highlands of Bolivia, *A. badius bolivianus*. The difference according to Mr. Friedmann between *badius* and *fringillarius* is more than

<sup>1</sup> Verh. Orn. Ges. Bay., XIII, 1917, p. 108.

one of shades of color, and *Agelaioides fringillarius* is one of the rarest birds in the world in museums.

Then there is a Jay, *Uroleuca cyanoleuca*, a monotypic genus, the only genus of Corvidae confined to South America. It is interesting because the pattern of the tail is unusual with a broad white band across all the feathers while it has a very short tail for a Jay, making it near the Crows in this character. Then Mr. Kaempfer collected the scarlet-breasted Tanager *Lamprotes lorincatus* from Paranagua Piahy. This species is interesting because the female is entirely black without a particle of red on the breast.

I have enumerated only the most outstanding species of the collection, but we have received many other most interesting specimens.

On August 27 just about three months ago Mr. Kaempfer wrote: "We are back from our Rio São Francisco and Piahy trip. In a few days we will go to the Sierras of central Bahia." There are localities at an altitude of 4000 feet where the collector hopes to find rare species. This is the habitat of the Small Blue Macaw, *Cyanopsittacus spixi*, which Mr. Kaempfer saw at a railway station at Joazeiro in Bahia, but which up to the time of writing he had not been able to obtain though we hope he will send us a fine series in the near future.

*American Museum of Natural History,*  
*New York City.*

ADDITIONS TO THE LIST OF BIRDS OF THE PIEDMONT  
REGION OF SOUTH CAROLINA.

BY A. L. PICKENS.

SINCE the splendid work of L. M. Loomis, done more than forty years ago, almost no systematic nature work has been done in upper South Carolina by a resident. So well were the Loomis lists prepared, that little was left for succeeding workers to do, and of the true specific additions to his lists, it is to be noted, that a large number are birds that love the vicinity of water. The vast amount of hydro-electric development in this vicinity in recent years, may have something to do with this, as the resulting ponds must certainly afford attractions sufficient to stop many migrant birds that might pass on unnoticed. The territory of what is termed "upper South Carolina" lies above the fall-line, and is about as large in extent as Massachusetts and Connecticut combined. The region is strikingly different from the coastal plain, a fact that has long been noted by naturalists, but despite this, and the density of population as compared with the coastal regions, little information is available for the younger rising generation of amateur naturalists. I recently attempted to draw up and publish a catalogue of the recorded vertebrates of the territory concerned, and venture the following additions to the classic Loomis bird lists. That the area is somewhat transitional will be noted from a careful study of the sub-specific forms here given.

***Uria lomvia lomvia.*** BRUNNICH'S MURRE.—One example taken near Anderson by J. R. Nowell and brother and described by Coues in 'The Auk,' 1897, XIV, p. 203.

***Larus argentatus.*** HERRING GULL.—Frequently found after heavy storms from the coast, and also appears to come in voluntarily, to larger bodies of water on rivers containing hydro-electric dams. I noted it first in the collection of Dr. D. T. Smith who formerly did taxidermy work here. He was not a professional naturalist, and unfortunately I am unable to give dates for this and the two species following.

***Chlidonias nigra surinamensis.*** BLACK TERN.—This bird has been taken on the Saluda river, where there are a number of hydro-electric dams. Dr. Smith received one good example for mounting.

***Botaurus lentiginosus*.** AMERICAN BITTERN.—I record this also from Dr. Smith's collection. One example is contained in the Barratt collection, but all of Dr. Barratt's notes have been lost, and it may not have been taken in the territory involved.

***Buteo platypterus platypterus*.** BROAD-WINGED HAWK.—Mr. William Hahn, Jr. of Greenwood writes me, under date of June 28, 1926, of taking eggs of this bird this year. Mr. Hahn is an oologist, and uses great care in his work.

***Aquila chrysaëtos*.** GOLDEN EAGLE.—Several have been reported from different points. Probably strays from the higher mountains between breeding seasons. Mr. W. C. Cox of Greenville reports one that was shot during March, 1926, and brought to him from a nearby rural section.

***Pandion haliaetus carolinensis*.** OSPREY.—Mentioned by Loomis as occurring in the lower Piedmont, but not recorded in the upper, and in the alpine region. Now found even up among the mountains. Mr. W. C. Cox kept two as captives, until one attacked and devoured the other, after which he liberated the survivor. This occurred last winter, and I examined the birds closely.

***Otus asio floridanus*.** FLORIDA SCREECH OWL.—Mentioned by Wayne in 'Birds of South Carolina' as occurring as high up as Edgefield Co.

***Dryobates pubescens pubescens*.** SOUTHERN DOWNY WOODPECKER.—That this and the Southern Hairy should be the birds of this section is odd when we note the sub-specific form of the following.

***Colaptes auratus luteus*.** NORTHERN FLICKER.—While the Southern form occurs on the coastal-plain this variety occurs in the higher Piedmont, as appears from measurements I made of a specimen taken in Greenville Co.

***Antrostomus carolinensis*.** CHUCK-WILL'S-WIDOW.—Reported by Loomis from Chester, but not seen nor heard by him in Pickens nor Greenville counties, though he records it, not numerically, from hearsay. The bird's occurrence in the Piedmont is well known to local observers, and it is heard every year from April to July, in most of the territory, being even more common than the Whip-poor-will, which is being driven into the mountains by civilization. The Chuck-will's-widow has earned the local name of "Dutch Whip-poor-will," from a fancied Dutch or foreign pronunciation of the word "whip-poor-will," and I have noted that it increases in numbers, and in boldness as one approaches the coast. Mr. Gabriel Cannon, a careful amateur ornithologist, had one brought into Spartanburg from the country for identification. Curiously enough, an outside professional ornithologist recently wrote me, questioning the occurrence of this bird in the Piedmont.

***Corvus ossifragus*.** FISH CROW.—Having noted this bird, even up among the mountain valleys in Virginia, I was not surprised to learn of its occurrence in the Piedmont through Mr. Wm. Hahn, Jr. and Mr. E. R. Blake of Greenwood. They have not found it breeding.



**Sturnus vulgaris.** EUROPEAN STARLING.—Now well-established and breeding at a number of points. Reports indicate it, so far, as principally a town and city resident.

**Loxia curvirostra minor.** RED CROSSBILL.—Mr. N. C. Brown has reported this bird along the edge of the Piedmont ('Auk,' XXVI, 432). That this bird, breeding in the mountains northwest of the state, and wintering on the coast-plain, has not been more frequently observed, would seem to imply that it migrates only at night.

**Compsothlypis americana americana.** SOUTHERN PARULA WARBLER.

**Compsothlypis americana usneae.** NORTHERN PARULA WARBLER.—Upper South Carolina affords forms tending toward both the varieties of the Parula Warbler, which as a specific form Loomis has already recorded.

As hypothetical forms I would record: Holboell's Grebe (*Colymbus holboelli*); Merganser (*Mergus americanus*); Gadwall (*Chaulelasmus streperus*); Canvas-back (*Marila valisineria*); Old-squaw (*Harelda hyemalis*); White-fronted Goose (*Anser albifrons gambeli*); reported by Dr. E. E. Murphey near Augusta, through Wayne's 'Birds of South Carolina.' Augusta is just across the Savannah, at the southern corner of the territory I include. Dr. Thomas Smyth, of the University of South Carolina, records having seen the Ruddy Duck above Columbia ('Auk,' April, 1926). I have one record of the Wood Ibis, or Stork (*Mycteria americana*), seen in the same vicinity on a large hydro-electric pond. The King Rail (*Rallus elegans*), I record from Three-and-Twenty Mile Creek, late summer. The Black Duck (*Anas rubripes*), and the Black-bellied Plover (*Squatorola squatorola*), are recorded as birds of the pine barrens of upper South Carolina by W. I. Burnett ('Proceedings of the Boston Society of Natural History,' IV, 115-118, in 1851). I have no specific verification of either of these species. The Saw-whet Owl (*Cryptoglaux acadica acadica*), has been taken in Aiken Co., very near the Piedmont region, and from descriptions of its note, I judge it occurs at times among the hills.

On May 21, 1923, with a strong field-glass I identified a Nonpareil (*Passerina ciris*), on the Broad river above Columbia. Of the Prothonotary Warbler (*Protonotaria citrea*), I have some creditable reports, but none from above the five hundred foot elevation line. Some birds, like the Orchard Oriole in summer,



and the Pipit in winter, seem to prefer keeping to the territory below that line. The Southern Yellow-throat has been taken, even in winter, near Camden, at the edge of the Piedmont, by N. C. Brown ('Auk,' XXXIII, 227-228) and probably occurs at even higher altitudes in summer.

The status of the Snow Goose puzzles me. I have never seen it, nor have I been able to find any one else who has seen it in upper South Carolina. Yet across the line in North Carolina, and on the adjacent coastal-plain, it seems fairly well-known, and one, or both sub-specific forms surely occur at times.

The Song-Sparrow which is usually regarded merely as a winter resident I found this summer in North Carolina within a fraction of a mile of the state boundary and further clearings on this side may induce the bird to breed in South Carolina.

Students interested may consult the basic Loomis lists in the 'Bulletin of the Nuttall Ornithological Club,' IV, 209-218, and in 'The Auk,' VII, 30-37, 124-130; VIII, 49-59, 167-173, 323-333. I shall be glad to furnish copies of my lists of vertebrates without charge, if any reader is interested in the birds of this territory, and has not already received one.

*202 Grove Street, Greenville, S. C.*

THE FORTY-FIFTH STATED MEETING OF THE  
AMERICAN ORNITHOLOGISTS' UNION.

BY T. S. PALMER.

WASHINGTON the official home of the Union welcomed the members for the twelfth time \* during the week beginning November 14, 1927, on the occasion of the Forty-fifth Stated Meeting which proved to be the largest and one of the most successful meetings in the history of the Union.

Business sessions were held at the headquarters, 'The Mayflower,' Connecticut Avenue and De Sales Street, N. W., and the public sessions in the U. S. National Museum. The various features of the meeting occupied six days, the first day being devoted to business, three days to public sessions and the last two days to excursions.

*Business Sessions:*—The business sessions on Monday were held in the north room of 'The Mayflower' and included two sessions of the Council at 10 A. M. and 2 P. M., a meeting of the Fellows at 4 P. M., and a meeting of Fellows and Members at 8 P. M.

At the meeting of the Fellows an amendment to the By-Laws was adopted extending membership in the class of Associates to residents of any country. Two vacancies in the class of Fellows caused by the death of L. A. Fuertes, and the transfer of Dr. R. W. Shufeldt to the Retired List in accordance with his request, were filled by the election of Edwin R. Kalmbach and James L. Peters.

At the evening meeting 25 Fellows, 2 Honorary Fellows and 27 Members were present. Following the roll call and reading and approval of the Minutes of the previous meeting, the Report of the Secretary was presented, showing a total membership of

<sup>1</sup> Previous meetings were held in Washington, D. C., in 1886, 1888, 1890, 1892, 1895, 1898, 1902, 1906, 1910, 1914, and 1920. At the first meeting in 1886 the Union had 251 members of whom 33 were present; nine papers were presented, three by title. In 1888 the Union was incorporated, in 1890 the first exhibition of photographs of live birds was made, in 1892 the first evening business meeting was held, in 1895 the first group photograph of the members was taken, in 1910 the class of Retired Fellows was established, in 1914 occurred the first regular spring meeting, and in 1920 the principal feature of the meeting was a comprehensive exhibit of bird paintings.

1752. The Report of the Treasurer was presented and showed total receipts of \$7,218.29 and disbursements of \$7,049.00 leaving a balance on hand of \$169.29. The Chairman of the Investment Trustees reported that the invested Funds of the Union amounted to \$29,793.08 including \$7,250 in the Brewster Memorial Fund.

The elections resulted in the re-election of the following officers for 1928: President, Alexander Wetmore; Vice-presidents, J. H. Fleming and Joseph Grinnell; Secretary, T. S. Palmer; Treasurer, W. L. McAtee; Members of the Council, A. C. Bent, Ruthven Deane, E. H. Forbush, H. C. Oberholser, W. H. Osgood, C. W. Richmond and T. S. Roberts.

On recommendation of the Council, 1 Honorary Fellow and 188 Associates were elected. Four Members were also elected from the list of Associates. Announcement was made of the biennial award of the Brewster Memorial Medal to Dr. John Charles Phillips, of Wenham, Mass., for his work 'A Natural History of the Ducks.'

The general business transacted included authorization for publishing the 'Ten-Year Index to The Auk,' continuing work on the 'Check List of North American Birds,' assistance in the publication of the Zoological Record 'Aves' and approval of the report of the Ridgway Memorial Committee. An amendment to the By-Laws proposing to eliminate the mail ballot for Fellows was favorably acted upon by the Council and will come up for final action at the next meeting.

Resolutions were adopted extending the thanks of the Union to the Acting Secretary of the Smithsonian Institution, to the Director of the National Zoological Park, and to the Executive Committee and members of the Audubon Society of the District of Columbia for courtesies extended during the meeting.

As a record of the convention a group photograph of the members was taken on Wednesday at the south entrance of the Museum.

*Public Sessions.*—The presentation of scientific papers occupied three days, November 15, 16 and 17 from 9:30 A. M. to 5:30 P. M. with intermissions of an hour and a half each day for luncheon. The regular sessions were held in the Auditorium, and special sessions on Wednesday and Thursday mornings in Room 43, of the National Museum. The program was unusually varied and

the longest ever presented at any meeting. More than 60 applicants and nearly 80 papers sought a place in the list, much more than the allotted time would permit. About 60 papers were presented in full, half a dozen others by title and a dozen more were offered but could not be included. The proper presentation of the wealth of material offered for the public meetings introduces a serious problem. As the attendance and number of papers increase it will become necessary to confine contributions more and more to results and abstracts with brief comments on methods and other details.

The sessions opened with an address of welcome by the President, who referred to the leading part which the Smithsonian Institution had taken in ornithology in the early days under Prof. S. F. Baird, the work of the naturalists of the Pacific Railroad Surveys, and of Coues, Ridgway and others who had been identified with the building up of the bird collection in the National Museum. Greetings followed by Gregory M. Mathews, representing the British Ornithologists' Union, and Dr. T. G. Ahrens representing the Deutsche Ornithologische Gesellschaft. The regular program was opened by Ernest Thompson Seton, who, under the title of 'The Voice in the Tamaracks,' gave a picturesque account of his early acquaintance with the White-throated Sparrow and described how the bird's notes had remained a mystery for years until he later found that they belonged to the familiar species known under several common names.

In accordance with the long established custom of the Union providing for memorials for deceased Fellows, Doctor Chapman paid an eloquent tribute to the life and work of Louis Agassiz Fuertes, ornithologist, bird lover, artist, and writer. He described Fuertes' meeting and early association with Doctor Coues who was largely responsible for his education in bird painting and his later association with the artist Abbott H. Thayer.

The outstanding papers of the program were Dr. C. W. Stiles' comprehensive discussion of 'What Constitutes Publication'; Dr. C. Hart Merriam's account of the 'History of Life Zone Work in America,' in which he described the beginning of his investigations, about 1879, that later developed into the life zone work of the Biological Survey; S. J. Darcus' announcement of the dis-

covery of the eggs of the Marbled Murrelet on the west coast of the Queen Charlotte Islands—the eggs of this species have been sought ever since the species was described in 1789, but have remained undiscovered for 138 years until the nesting place was found in the cliffs of one of the rocky islands of the Queen Charlotte group; and Friedmann's papers on parasitism in the Cowbirds and in the Cuckoos based on world-wide investigations extending over several years.

In this connection should be mentioned Baldwin's detailed and thorough investigations of the life history of the House Wren particularly with reference to the actions of the bird during incubation and while the young are in the nest. A complete record of the movements of the bird and the changes in temperature of eggs and young due to the presence or absence of the bird were recorded automatically by two very ingenious and delicate instruments, one known as a 'wrenograph,' which records the movements of the bird, and the other a potentiometer which indicates the slight changes in the temperature of the egg or young when the parent bird leaves the nest. Two additional papers gave other interesting results of work at the Baldwin Bird Research Laboratory. There were two interesting reports of investigations made at the Barro Colorado Laboratory in the Canal Zone, one by Doctor Chapman on the 'Nesting Habits of Wagler's *Oropendola*' and the other by Josselyn Van Tyne on a 'Life History Study of the Toucan.' Other important life history studies included Napier Smith's 'Home Life of the Red-eyed Vireo' in Quebec, Prof. F. H. Herrick's 'Recent History of the American Eagle' in Northern Ohio and Dr. Friedmann's 'Habits of the Sociable Weaver Bird of South Africa.'

Game birds received considerable attention at the meeting. Vernon Bailey showed a hybrid Quail from New Mexico, McClinck exhibited a film of the Wild Turkey in Pennsylvania, Bergtold discussed 'More Colorado Ducks,' Oberholser described the method of 'Taking a Waterfowl Census' based on estimates made by observers in many parts of the country, Lincoln outlined 'A Method of Determining the Annual Fluctuation in the Abundance of Waterfowl' by returns from banded birds, and Ahrens in a paper on 'Ornithological Notes from Germany' referred to recent



efforts in behalf of waterfowl protection in Europe and particularly to the results of the conference held in London in October, 1927.

The subject of bird song received attention not only in the paper of Seton on the White-throated Sparrow, but also in Townsend's 'Impressions of English Birds,' Saunders' 'Super Singers' and Packard's 'Folk Lore of Bird Songs.' Plumage formed the keynote of several others, notably Pirnie's 'Notes on Duck Plumages,' Allen's 'Melanism in the Ruffed Grouse,' Boulton's 'Pattern of Natal Down in the Passeres,' based on 20 families and 125 species, Miller's 'Notes on the Pterylosis of Parrots,' and Chapman's 'South American Forms of the Genus *Otus*.' Other subjects were touched on in Storer's discussion of 'Oölogical Data' and Shea's 'Relative Abundance of Young and Old immediately after the Nesting Season.'

Bird banding in its various phases and applications was discussed by several members of the Northeastern and Inland Bird Banding Associations and Lincoln showed how the results obtained through returns from Ducks killed the first season after banding might be used in estimating relative abundance. His conclusions were based on some 17,000 Ducks banded during the last 7 years from which the first year returns averaged about 12 per cent of the total number banded.

Interesting features of the program were the contributions of the lady members. Mrs. W. W. Naumburg presented a 'Further Report on Kaempfer's Collections in Eastern Brazil'; Mrs. M. M. Nice 'Observations on the Nesting of a Pair of Yellow-crowned Night Herons' in Oklahoma; Miss May T. Cooke discussed 'Bird Censuses Past and Future,' and Mrs. E. S. Wilson exhibited a series of pictures of 'Water Birds of the Detroit River,' Michigan.

The literary side of ornithology was represented by Doctor Stone's earnest plea on behalf of Dr. Casey A. Wood for 'The Continuation of Coues' Bibliography of Ornithology,' Peters' 'Plea for more General Use of Classical Names in Nomenclature,' and Dr. R. M. Anderson's account of 'The Work of Bernhard Hantzsch (1875-1911) in Arctic Ornithology.'

The life zones of the southeastern United States were discussed by A. H. Howell and those of Equatorial Africa by James P. Chapin. Wetmore's 'Ornithological Experiences in Haiti,'



Murphy's 'Notes on the Bird Life of the Mediterranean Region,' James Bond's 'Notes on some Birds from the Lesser Antilles,' and several other papers brought vividly before the audience the results of recent field work in distant regions.

Bird protection received consideration in Lloyd's 'Bird Conservation,' Sutton's 'Hawk Migration in Pennsylvania,' Pearson's graphic account of 'The Eagles of Alaska,' and these papers were supplemented by W. W. Bennett's pictures showing bird life on Federal bird reservations in North Dakota, Bartsch's photographs of Terns on the Tortugas Reservation in Florida, and Floyd's 'Observations on [12,000] Common and Roseate Terns' on the State reservations in Massachusetts.

As usual moving pictures formed an attractive part of the program during the greater part of two sessions and included several notable features. McClintock showed some interesting pictures of 'Winter Life on a Connecticut Farm,' W. E. Hastings of the Department of Conservation of the State of Michigan, a series entitled 'Wild Wings' which contained some striking pictures of young Loons, and Murphy a short film showing how a young Petrel (*Pterodroma mollis* fœ) from Bugio, one of the Madeira Islands was raised in captivity. Two narrow films were also exhibited one by Dr. John B. May showing the 'Purple Sandpiper on the Coast of Massachusetts' and the other a charming picture of Terns on the Texas coast by Dr. W. C. Herman, shown in connection with those of the Reddish Egret, demonstrated what can be accomplished in taking moving pictures with small modern cameras.

*Exhibits.*—The exhibits this year took the form of a selection of specimens and documents of special historical interest arranged in six table cases near the entrance to the Auditorium. The central feature was a series of 64 portraits of 'Ornithologists and Explorers of America not now living and Specimens of North American Birds named in their Honor.' Among the 140 specimens in this series were included 3 types: Cooper's Sandpiper (*Tringa cooperi* Baird), Cooper's Hen Hawk (*Buteo cooperi* Cassin), and Townsend's Bunting (*Emberiza townsendi* Audubon). The latter was first named *Emberiza auduboni* by Townsend, but the description was never published (See 'Auk,' 1909, p. 271). Among the birds named

in honor of John Cassin was a specimen of Cassin's Purple Finch with a memorandum explaining how the bird received its name.<sup>1</sup> Field catalogues, letters and manuscripts were also included. Among specimens of historical interest were a dozen birds from the early collection of President Roosevelt, six skins obtained in Brazil by Johann Natterer in 1818 and 1821, which although more than a century old were still as bright and fresh as if recently made up. There were also three Ross' Gulls collected in the Arctic, north of Wrangell Island in October, 1879, and June, 1880, on the ill-fated 'Jeannette Expedition' and brought out over the ice by R. L. Newcomb, naturalist of the expedition (See 'Auk,' 1899, p. 153).

*Social features.*—The social gatherings included the daily luncheons, a reception on Tuesday evening in the Art Gallery of the U. S. National Museum, the annual dinner on Wednesday evening, a smoker in the Bird Department of the Museum on Thursday evening, and informal receptions at the homes of several of the resident members. The annual dinner at 'The Mayflower' was attended by about 230 members and guests. After the dinner 'The Auklet' was distributed and a special illustrated program was presented consisting chiefly of reminiscences of the Ottawa meeting of 1926.

On Friday about 250 members and guests went on the excursion down the Potomac River to see the waterfowl. The steamer 'Charles Macalester' left the wharf at the foot of Seventh Street at 10 A. M. making a trip of about 40 miles down the river to Widewater and returned about 5:30 P. M. A stop of an hour at Mt. Vernon afforded the members an opportunity of visiting the home and tomb of George Washington and also of seeing some of the land birds at that historic spot. Altogether more than forty species of birds were observed during the day, including thousands of Canvasbacks and Black Ducks, smaller numbers of a dozen other species of Ducks, two flocks of Canada Geese, Gulls of four species including a large flock of Laughing Gulls which followed the steamer for some distance, and at least a dozen Bald Eagles.

<sup>1</sup> Baird proposed the name *Carpodacus pileatus* which he submitted with other names to Cassin. Commenting on this list Cassin wrote: "*Carpodacus pileatus*—bad specific name—greatest bird in the lot—call it *cassinii*!"—a suggestion which Baird adopted.

Many of the members had their first opportunity of seeing large flocks of waterfowl and the manner in which the birds rest and feed on the open water during the day.

On Saturday about 25 members met in the National Zoological Park at 10:30 A. M. and under the leadership of Dr. Wetmore and Director Mann inspected the principal birds in the collection. The new Bird House, nearly completed, was visited and its various features examined and the birds obtained on the Smithsonian-Chrysler African Expedition and other interesting specimens attracted much attention.

Invitations to hold the next annual meeting were received from a number of cities in various States, but by unanimous vote of the Union it was decided to accept the invitation of the Charleston Museum and the Forty-sixth Stated Meeting will be held in Charleston, S. C., in the autumn of 1928.

### THE PROGRAM

(Papers are arranged in the order in which they were presented at the meeting. Those marked with an asterisk (\*) were illustrated by lantern slides.)

#### TUESDAY MORNING

Address of Welcome. DR. ALEXANDER WETMORE, Assistant Secretary, Smithsonian Institution.

Greeting from the British Ornithologists' Union. GREGORY M. MATHEWS, London, England.

Greeting from the Deutsche Ornithologische Gesellschaft. THEODOR G. AHRENS, Berlin, Germany.

Roll Call of Fellows and Members, Report of Business Meeting, Announcement of Result of Elections and Award of the Brewster Medal.

1. \*The Voice in the Tamaracks. ERNEST THOMPSON SETON, Greenwich, Conn. (15 min.)
2. In Memoriam—Louis Agassiz Fuertes. FRANK M. CHAPMAN, American Museum of Natural History, New York. (35 min.)
3. Impressions of English Birds. CHARLES W. TOWNSEND, Ipswich, Mass. (20 min.)
4. History of Life Zone Work in America. C. HART MERRIAM, Washington, D. C. (20 min.)
5. Discovery of the Breeding Grounds of the Marbled Murrelet. S. J. DARCUS, Penticton, B. C. (Presented by Harrison F. Lewis.) (15 min.)
6. Origin and Evolution of Parasitism in the Cowbirds. HERBERT FRIEDMANN, Amherst College, Amherst, Mass. (20 min.)

## TUESDAY AFTERNOON

7. A Plea for the Continuation of Coues' Bibliography of Ornithology. CASEY A. WOOD, Chicago, Ill., and WITMER STONE, Academy of Natural Sciences, Philadelphia, Pa. (15 min.)
8. What Constitutes Publication? CHARLES WARDELL STILES, Hygienic Laboratory, U. S. Public Health Service, Washington, D. C. (20 min.)
9. \*The Eagles of Alaska. T. GILBERT PEARSON, President, National Association of Audubon Societies, New York. (25 min.)
10. \*Water Birds of the Detroit River. MRS. ETTA S. WILSON, Detroit, Mich. (30 min.)
11. The Folk Lore of Bird Songs. WINTHROP PACKARD, Canton, Mass. (10 min.)
12. Taking a Waterfowl Census. HARRY C. OBERHOLSER, Biological Survey, Washington, D. C. (15 min.)
13. \*Development of Temperature Control in Nestling House Wrens. S. CHARLES KENDEIGH, Baldwin Bird Research Laboratory, Cleveland, O. (Presented by S. Prentiss Baldwin.) (20 min.)
14. \*The American Eagle on the Shores of Lake Erie; Recent History. FRANCIS H. HERRICK, Western Reserve University, Cleveland, O. (20 min.)

## WEDNESDAY MORNING—GENERAL SESSION

15. Results of Bird Banding in the Inland District. W. I. LYON, Waukegan, Ill. (20 min.)
16. \*Notes on the Habits of the Sociable Weaver Bird of South Africa. HERBERT FRIEDMANN, Amherst College, Amherst, Mass. (10 min.)
17. Problems of a Bird Research Laboratory. S. PRENTISS BALDWIN, Cleveland, O. (15 min.)
18. Super Singers. W. E. SAUNDERS, London, Ont. (10 min.)
19. Banding Marsh Birds at Branchport, N. Y. VERDI BURTCH, Branchport, N. Y. (20 min.)
20. \*Home Life of the Red-eyed Vireo. NAPIER SMITH, Verdun, Quebec. (15 min.)
21. \*Notes on Some Duck Plumages. MILES D. PIRNIE, Ithaca, N. Y. (20 min.)
22. \*Observations on Common and Roseate Terns. CHARLES B. FLOYD, Auburndale, Mass. (30 min.)
23. \*Pattern of Natal Down in the Passeres. W. RUDYERD BOULTON, JR., Carnegie Museum, Pittsburgh, Pa. (30 min.)

## WEDNESDAY MORNING—SPECIAL SESSION

24. New Factors of Distribution in Panama. LUDLOW GRISCOM, Museum of Comparative Zoology, Cambridge, Mass. (Read by title.)

25. \*The Work of Bernhard Hantzsch in Arctic Ornithology. R. M. ANDERSON, National Museum of Canada, Ottawa. (25 min.)
26. The Classification of the Small Petrels. ROBERT CUSHMAN MURPHY, American Museum of Natural History, New York. (15 min.)
27. \*A Study of the Faunal Areas of the Southeastern United States. A. H. HOWELL, Biological Survey, Washington, D. C. (25 min.)
28. A Method of Cleaning Large Skins. HOYES LLOYD, Canadian National Parks, Ottawa. (5 min.)
29. Further Remarks on Kaempfer's Collections in Eastern Brazil. MRS. ELSIE M. B. NAUMBURG, American Museum of Natural History, New York. (20 min.)
30. The South American Forms of the Genus *Otus*. FRANK M. CHAPMAN, American Museum of Natural History, New York. (10 min.)
31. A Plea for more General Use of Classical Names in Nomenclature. JAMES L. PETERS, Museum of Comparative Zoology, Cambridge, Mass. (15 min.)
32. Hypothetical Chart of Limicoline Phylogeny. JOHN T. NICHOLS, American Museum of Natural History, New York. (Read by title.)
33. Notes on the Pterylosis of Parrots. WALDRON DE W. MILLER, American Museum of Natural History, New York. (20 min.)

WEDNESDAY AFTERNOON

34. \*Island Bird Life in North Dakota. WALTER W. BENNETT, Sioux City, Ia. (45 min.)
35. \*The Nesting Habits of Wagler's Oropendola on Barro Colorado Island. FRANK M. CHAPMAN, American Museum of Natural History, New York. (45 min.)
36. \*Notes on the Bird Life of the Mediterranean Region. ROBERT CUSHMAN MURPHY, American Museum of Natural History, New York (Motion pictures). (25 min.)
37. \*A Life History Study of the Toucan (*Ramphastos brevicarinatus*). JOSSELYN VAN TYNE, Ann Arbor, Mich. (20 min.)
38. With the "Blossom" at St. Helena and Ascension in the South Atlantic. GEORGE FINLAY SIMMONS, Cleveland Museum of Natural History, Cleveland, O. (Read by title.)
39. \*Life Zones in Equatorial Africa. JAMES P. CHAPIN, American Museum of Natural History, New York. (40 min.)

THURSDAY MORNING—GENERAL SESSION

40. \*Ornithological Experiences in Haiti. ALEXANDER WETMORE, Smithsonian Institution, Washington, D. C. (20 min.)
41. Banding Notes from the Upper Peninsula of Michigan. M. J. MAGEE, Sault Ste. Marie, Mich. (20 min.)
42. Exhibition of a Hybrid Quail (*Callipepla* × *Lophortyx*) from New Mexico. VERNON BAILEY, Biological Survey, Washington, D. C. (5 min.)



43. Notes on Some Birds of the Lesser Antilles. JAMES BOND, Philadelphia, Pa. (15 min.)
44. Bird Conservation or Applied Ornithology. HOYES LLOYD, Canadian National Parks, Ottawa. (20 min.)
45. \*A Method of Determining the Annual Fluctuation in the Abundance of Waterfowl. F. C. LINCOLN, Biological Survey, Washington, D. C. (15 min.)
46. Factors in the Local Distribution of House Wrens. W. W. BOWEN, Baldwin Bird Research Laboratory, Cleveland, O. (20 min.)
47. \*Hurricanes as a Factor in Changing the Nesting Habits of the Noddy Tern on the Tortugas, Florida. PAUL BARTSCH, U. S. National Museum, Washington, D. C. (25 min.)

## THURSDAY MORNING—SPECIAL SESSION

48. Some Features of Parasitism of the Old World Cuckoos. HERBERT FRIEDMANN, Amherst College, Amherst, Mass. (15 min.)
49. The Reddish Egret at Green Island, Texas—Motion pictures. WILLIAM C. HERMAN, Cincinnati, O. (15 min.)
50. The Purple Sandpiper on the Massachusetts Coast—Motion pictures. JOHN B. MAY, Cohasset, Mass. (5 min.)
51. Relative Abundance of Young and Old immediately after the Nesting Season. DANIEL W. SHEA, Catholic University of America, Washington, D. C. (10 min.)
52. \*Ornithological Notes from Germany. THEODOR G. AHRENS, Berlin, Germany. (25 min.)
53. Observations on the Nesting of a Pair of Yellow-crowned Night Herons. MRS. MARGARET M. NICE, Columbus, O. (15 min.)
54. \*Bird Censuses, Past and Future. MISS MAY T. COOKE, Biological Survey, Washington, D. C. (15 min.)
55. Oölogical Data: Their Possible Use and Practical Limitations. TRACY I. STORER, University of California, Davis, Calif. (10 min.)
56. More Colorado Ducks. W. H. BERGTOLD, Denver, Colo. (15 min.)
57. Melanism in the Ruffed Grouse (Exhibition of specimens). ARTHUR A. ALLEN, Cornell University, Ithaca, N. Y. (10 min.)
58. Hawk Migration in Pennsylvania. GEORGE M. SUTTON, Game Commission, Harrisburg, Pa. (10 min.)
59. The Bird Collection in the Munich Museum. C. E. HELLMAYER, Field Museum of Natural History, Chicago, Ill. (Read by title.)
60. Notes on Birds of the Bear River Marshes, Utah. WHARTON HUBER, Academy of Natural Sciences, Philadelphia, Pa. (Read by title.)
61. Further Notes on the Birds of the Magdalen Islands. C. J. YOUNG, Carrying Place, Ont. (Read by title.)

## THURSDAY AFTERNOON—MOTION PICTURES

62. Some Common and Uncommon Southern Birds. WALLACE ROGERS, Atlanta, Ga. (Read by title.)



63. Methods of Bird Research. S. PRENTISS BALDWIN, Cleveland, O. (45 min.)
64. Birds of Land and Sea. CLAUDE W. LEISTER, Ithaca, N. Y. (30 min.)
65. The Wild Turkey in Pennsylvania; Winter Life on a Connecticut Farm. NORMAN MCCLINTOCK, Pittsburgh, Pa. (30 min.)
66. Wild Wings. WALTER E. HASTINGS, Department of Conservation, South Lyon, Mich. (45 min.).

#### ATTENDANCE

The registration showed the presence of 30 Fellows, 2 Retired Fellows, 2 Honorary Fellows, 33 Members and 148 Associates, making a total of 215 members. Among the number were three of the Founders still on the list of Fellows, Charles F. Batchelder, Albert K. Fisher, and C. Hart Merriam, five Fellows elected at the first meeting, Ruthven Deane, Jonathan Dwight, George Bird Grinnell, W. E. Saunders, and Leonhard Stejneger. The Union had the pleasure of welcoming two Honorary Fellows Dr. C. E. Hellmayr of the Field Museum, and Gregory M. Mathews of London, a Corresponding Fellow who was advanced to the class of Honorary Fellows at this meeting. Among the other members who came from a distance were Dr. T. G. Ahrens of Berlin, Germany; Walter K. Fisher, Tracy I. Storer, A. J. Van Rossem and several visitors from California; Dr. W. H. Bergtold from Colorado; W. W. Bennett from Iowa; Ruthven Deane, Mr. and Mrs. W. I. Lyon from Illinois; H. B. Skeeel from Georgia; Miss L. P. Ford, Miss Marion J. Pellew, E. B. Chamberlain, Mr. and Mrs. Herbert Sass and Mr. and Mrs. Alexander Sprunt from South Carolina; Prof. Jesse M. Shaver from Tennessee and a number from Canada.

Representatives were present from 20 States, the District of Columbia, two Provinces of Canada, England and Germany. The States included most of those in the northeast, Georgia, South Carolina and Tennessee in the south, and California, Colorado and Iowa in the west. The largest delegations of members from outside the District of Columbia included 18 from Canada, 20 from Massachusetts, 24 from Pennsylvania and 28 from New York.

Fourteen natural history museums were represented by one or more of their members, viz: American, British, Canadian National, Carnegie, Charleston, Cleveland, Comparative Zoology, Everhart,

Field, National, Philadelphia Academy of Natural Sciences, Princeton, Royal Ontario and the University of Michigan.

#### FELLOWS AND MEMBERS PRESENT.

FELLOWS.—Arthur A. Allen, Charles F. Batchelder, Arthur C. Bent, W. H. Bergtold, James P. Chapin, Frank M. Chapman, Ruthven Deane, Jonathan Dwight, Albert K. Fisher, James H. Fleming, Edward H. Forbush, George Bird Grinnell, Lynds Jones, E. R. Kalmbach, W. L. McAtee, C. Hart Merriam, W. DeWitt Miller, Robert C. Murphy, H. C. Oberholser, T. S. Palmer, James L. Peters, John C. Phillips, C. W. Richmond, J. H. Riley, William E. Saunders, Witmer Stone, P. A. Taverner, W. E. Clyde Todd, Charles W. Townsend, Alexander Wetmore—Total 30.

RETIRED FELLOWS.—W. K. Fisher, Leonhard Stejneger—2.

HONORARY FELLOWS.—C. E. Hellmayr, Gregory M. Mathews—2.

MEMBERS.—R. M. Anderson, Vernon Bailey, Mrs. Vernon Bailey, William L. Baily, S. Prentiss Baldwin, Paul Bartsch, Frank Bond, Miss May Thacher Cooke, Maunsell S. Crosby, Herbert Friedmann, F. H. Herrick, Ernest G. Holt, A. B. Howell, A. H. Howell, Wharton Huber, J. Warren Jacobs, F. H. Kennard, F. C. Lincoln, Hoyes Lloyd, W. I. Lyon, Mrs. W. W. Naumburg, T. Gilbert Pearson, Edward A. Preble, Charles H. Rogers, Ernest Thompson Seton, Geo. Finlay Simmons, Tracy Irwin Storer, George M. Sutton, B. H. Swales, Spencer Trotter, A. J. Van Rossem, Robert White Williams, Norman A. Wood—Total 33.

#### ELECTION OF FELLOWS, MEMBERS AND ASSOCIATES.

##### FELLOWS—2

Edwin Richard Kalmbach, Washington, D. C.  
James Lee Peters, Harvard, Mass.

##### HONORARY FELLOW—1.

Gregory Macalister Mathews, London, England.

##### MEMBERS—4.

Herbert Friedmann, Amherst College, Amherst, Mass.  
James Stokley Ligon, Santa Fe, New Mexico.  
William Rowan, Edmonton, Alta.  
Adriaan Joseph Van Rossem, Pasadena, Calif.

##### ASSOCIATES—188.

The names of Associates who qualify will appear in the annual directory of members in 'The Auk' for April.

## REPORT OF THE SECRETARY.

BY T. S. PALMER.

TEN years ago the present incumbent was elected Secretary of the Union and it is fitting on this occasion to mention some of the more important events which have occurred during the past decade. In spite of the fact that we have passed through the great war, an epidemic of the 'flu' and a period of financial depression, the Union has practically doubled its membership, and has extended its influence without raising its dues. Meetings have been held in three new places, and with the cordial cooperation of Canadian members the first international meeting held in 1926 was a great success. Unlike our Australian confreres, who have successfully completed their Check List, we have not yet published the new edition of the 'Check List of North American Birds' although the work of preparation is well under way. The 'Ten Year Index of The Auk' has not yet been issued but is now ready for the printer, although some months must still elapse before it will be issued. The 'Index of Portraits of Ornithologists' which was authorized some time ago by the Council has not yet been completed.

*Membership.*—The present membership shows a total of 63 less than the number reported last year due to the rigid pruning to which the list was subjected last spring. The members are distributed in all the States and Territories (except Hawaii), the Philippines, and in a number of foreign countries and colonies on all of the continents, and in the West Indies.

The following tabular statement shows the figures for the present membership in comparison with those of 10 years ago and last year:

		Retired	Hon.	Corresponding			
	Fellows	Fellows	Fellows	Fellows	Members	Associates	Total
1917	49	3	14	59	77	689	891
1926	50	5	23	86	99	1552	1815
1927	49	5	23	92	103	1500	1752

A comparison with 1917 shows that the membership has practically doubled during the last decade, notwithstanding the slight

decrease during the present year. At the last meeting 9 Corresponding Fellows and 154 Associates were elected and during the year the number was still further increased by the restoration of 3 Associates. Notwithstanding these additions the increase was more than offset by the loss of 19 Members by death, 38 by resignation, others by failure to qualify and by delinquency. The losses by death including those of 1 Fellow, 2 Corresponding Fellows, 1 Member and 15 Associates were marked by two tragedies: The death of Miss Mary Stella Clarke, an Associate who wandered out on the beach at Cape May, New Jersey, on the stormy night of January 15 and met a tragic death, and Louis Agassiz Fuytes who was killed in an automobile accident at a railway crossing near Unadilla, New York, on August 22. In the classes of restricted membership we now have one vacancy in the class of Fellows, two in that of Honorary Fellows, eight in that of Corresponding Fellows, and twenty-two in that of Members.

*Activities of Members Abroad.*—During the year the Treasurer has visited a number of museums in the capitals of Europe and met some of our foreign members, while the Secretary visited the west coast and several provinces of Canada, attended meetings of the two sections of the Cooper Ornithological Club, conferred with a number of members in the northwest and visited seven or eight museums. In the field many members have been active. In tropical America the President collected in San Domingo and during a two months trip secured many specimens and data of importance, while S. T. Danforth and J. T. Emlen, Jr. collected on the same island and James Bond in several of the Lesser Antilles. Harry Malleis is still in Guatemala and A. J. Van Rossem who has been working for several years in Salvador has recently returned from another successful trip. Austin Paul Smith has again taken up his residence at San Jose, Costa Rica, and A. W. Anthony has been collecting in Guatemala for Dr. Dwight. Mr. and Mrs. Ludlow Griscom visited Panama and the Canal Zone, and the station at Barro Colorado has been visited during the year by Dr. Thomas Barbour, Dr. F. M. Chapman, Dr. A. O. Gross and Josselyn Van Tyne, all of whom spent some time in various investigations.

In South America the most important expedition was probably

that known as the Captain Marshall Field Brazilian Expedition which has recently returned with some 4,000 zoological specimens. George K. Cherrie the veteran collector and field naturalist was a member of this expedition. Colin C. Sanborn also of the Field Museum has recently returned from Uruguay where he obtained exhibit material and a small collection of birds. In Ecuador, R. T. Moore has devoted especial attention to Hummingbirds and has brought back a collection containing valuable material representing this group. Dr. and Mrs. Gross and Mrs. E. K. Frey also made a trip to Ecuador, visiting Guayaquil and Quito and reached a point in the Andes above 15,000 feet.

As usual several members visited Europe. The Treasurer during two months spent abroad visited a number of museums in England, France, Germany, Austria, Hungary, Finland and Sweden. Mrs. W. W. Naumburg spent some time in work in museums in England and on the continent and Dr. Charles W. Townsend and Dr. Casey A. Wood returning from their extended trips around the world spent some time in England.

On the continent of Asia Dr. Hugh M. Smith, Director of fisheries work in Siam, has made some valuable collections of birds for the U. S. National Museum. M. Delacour has recently returned to Indo-China to continue the work which he has so successfully carried on in that little known region during the past three or four years.

Africa has perhaps been the scene of greatest recent activity of American ornithologists in foreign countries. The Field Museum of Natural History has had two important expeditions in the eastern and southern parts of the continent. The Abyssinian Expedition under the direction of Dr. W. H. Osgood who was accompanied by Messrs. L. A. Fuertes and A. M. Bailey has recently returned laden with valuable collections from an almost unknown region. Messrs. H. B. Conover and J. T. Zimmer were also successful in their quest for material in Tanganyika and the eastern part of the Belgian Congo.

The American Museum has been ably represented in the Congo region by J. P. Chapin who has recently returned from the Mt. Ruwenzori region with valuable material and information, while Herbert Lang who has been collecting in South Africa for several years is still absent in that region.



Last spring Dr. Charles W. Townsend and Mr. H. B. Skeeel happened to meet in Egypt and took a trip together up the Nile. A former Associate, Mrs. Adele Lewis Grant is now located at Wellington, Cape Province, and while primarily engaged in botanical work in the University of South Africa still maintains her interest in birds.

The Whitney South Sea Expedition of the American Museum is still actively at work in the South Pacific under the direction of Rollo Beck who continues to add to his rich collections of rare species from a little known region. He has recently sent in a shipment of several thousand bird skins and many bird skeletons, nests and eggs from the Solomon Islands and the New Hebrides. In this connection reference should also be made to another globe circuit made by Mrs. Harriet W. Myers who started westward from California in November 1926. Since her return she has published a brief summary of her observations made during the four months' trip.

*Biography and Bibliography.*—The Committee on Biography and Bibliography has carried on a variety of activities during the year. Assistance has been rendered to the Editor in proof reading on 'The Auk,' and the work of obtaining biographical data and preparing obituary notices of deceased members has been continued. Notices have now been published for all of the foreign members who died previous to the beginning of the year 1927.

In the effort to keep in touch with foreign ornithological organizations, data have been secured regarding the Siberian Ornithological Society which was organized in Tomsk, Siberia, in 1918. This organization has been functioning for 9 years but apparently its work is little known to most of our members. In 1926 it began the publication of a journal known as 'Uragus,' of which several numbers have thus far appeared. Copies of this journal are now regularly received by the library of the U. S. Department of Agriculture and should be in a number of other public and private libraries.

Through cooperation with several local organizations in California the grave of Thomas Bridges, the first resident California ornithologist, which had remained unmarked for a number of years, has been marked with a small stone bearing a suitable



inscription. The tombstone of James Hepburn, one of the early West Coast collectors and the discoverer of Hepburn's Rosy Finch, has been located in Quadra Street Cemetery in Victoria, B. C.

*Museum Collections.*—The Committee on Biography and Bibliography has also continued to accumulate information regarding some of the more important public and private bird collections in this country and abroad, in order to have available for those who may be interested, basic facts regarding the more important ornithological collections. There is great need of some brief but comprehensive summary of information regarding the more important collections in this country and abroad which should be available to students and general readers.

Reference has several times been made in previous reports to the genera of birds of the world (included in Sharpe's 'Hand List') which are still unrepresented in American museums. Through the activity of several institutions, particularly of the American Museum of Natural History and the Museum of Comparative Zoology, the list of desiderata in these collections has recently been considerably reduced with the result that the total number of genera still unrepresented in American museums has now been reduced to 57. A list of these genera is practically ready for publication.

*Papers of the Ottawa Meeting.*—More papers than usual presented at the last annual meeting have appeared in print. No less than 17 of the 57 have thus far been published—7 in 'The Auk' and at least 10 elsewhere. Those which appeared in 'The Auk' include the following:

No. 1. Townsend's 'Notes on the Courtship of the Lesser Scaup, Everglade Kite, Crow and Boat tailed and Great tailed Grackles.'

No. 7. Young's 'Visit to the Queen Charlotte Islands.'

No. 10. Boulton's 'Nestling Plumage of the House Wren, under the title 'Ptilosis of the House Wren.'

No. 11. Kendeigh's 'House Wren On and Off Duty.'

No. 16. Bergtold's 'Sparrow Hawks of Colorado.'

No. 28. Wetmore's 'Present Status of the Fossil Bird List of North America.'

No. 41. Bowles and Decker's paper on Flycatchers under the title 'A Comparative Field Study of Wright's and Hammond's Flycatchers.'

The papers published elsewhere include:

No. 3. Harrison Lewis' contribution on Eider Down under the title 'Producing Eider Down,' in the 'Canadian Field Naturalist,' Feb. 1927.

No. 4. Grinnell's 'Tree Surgery and the Birds,' in the 'University of California Chronicle,' Jan. 1927, pp. 104-106.

No. 5. Alexander's, 'Decorations of the Bowers of Australian Bower-Birds,' in 'Bulletin of the British Ornithologists' Club,' XLVII, pp. 80-82, Feb. 27, 1927 (abstract).

No. 19. Grinnell's 'Critical Factor in the Existence of South-western Game Birds,' in Science, LXV, pp. 528-529, May 27, 1927.

No. 20. W. P. Smith's 'Tree Sparrow Returns and Migration,' in 'Bull. N. E. Bird Banding Assn.,' III, pp. 5-7, Jan. 1927.

No. 24. McAtee's 'Averages are Fundamental in Economic Ornithology,' in 'Bird Lore,' XXIX, pp. 97-99, April, 1927.

No. 32. Gromme's pictures of the 'Nesting Life of the Loon in Wisconsin,' in 'Yearbook of the Public Museum of the City of Milwaukee' for 1925, Vol. V, pp. 59-60, figs. 86-89, March 10, 1927.

No. 37. Simmons' 'Blossom South Atlantic Expedition' under the title 'Sindbads of Science,' in the 'National Geographic Magazine,' July, 1927, pp. 1-75, 87 illustrations.

No. 53. Todd's 'Hudson Bay Expedition' under the title 'The John B. Semple Expedition,' in 'The Cardinal,' II, pp. 6-10, Jan., 1927.

No. 54. Griscom's 'Ornithological Results of the Mason-Spinden Expedition to eastern Yucatan and Cozumel Island,' in 'American Museum Novitates,' No. 235, pp. 1-19, No. 236, pp. 1-13.

*Looking Forward.*—The Union at present is in a transition stage. In the early days when the sessions were entirely devoted to business and later with the introduction of programs devoted chiefly to papers on distribution and systematic work or reports on field expeditions, it was comparatively easy to arrange the programs, provide ample time for discussion, and transact the necessary business. With the increase in membership to nearly 2000, interests of the members have multiplied and become more diversified.

More contributions are now offered for the program of an annual meeting than can properly be presented and new conditions present several problems difficult of solution. While this active interest on the part of members is very encouraging it brings up questions which require careful consideration.

The annual meeting is the clearing house of the Union which affords an opportunity for personal contact and conference, comparison of specimens, consultation of books and manuscripts, comparing notes on previous work and planning trips for the future. To insure better attendance it is highly desirable that the membership of the Union be increased at least to 2500, not merely for the sake of larger numbers but to secure reduced railroad rates which may be had with an attendance of 250 at the meetings. This means much to members who come from a distance. The arrangement of the program to secure the greatest economy of time and effort is a problem for the members. Double sessions are objectionable but unavoidable if the program is long. Whether to shorten the time or restrict the subjects are matters for careful consideration. Discussion is one of the objects of the public presentation of papers but the direction of discussion and the preservation of the results are difficult matters to handle. Finally, the question of whether the Union should provide regional meetings to keep closer in touch with its membership in distant States, and whether the annual meetings should be conducted on the fee system instead of the system thus far followed must be decided in the near future if the range of meeting places is to be extended much farther.

#### DECEASED MEMBERS, 1926-1927.

LOUIS AGASSIZ FUERTES,<sup>1</sup> Fellow, aged 53, killed in an automobile accident near Unadilla, N. Y., Aug. 22, 1927.

JOHANNES BUTTIKOFER, Corresponding Fellow, died in his 77th year at Berne, Switzerland, June 24, 1927.

HENRY LUKE WHITE, Corresponding Fellow, aged 67, died at Belltrees, Scone, New South Wales, Australia, May 30, 1927.

FRANK HALL KNOWLTON,<sup>2</sup> Member, aged 66, died at Ballston, Va., Nov. 22, 1926.

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<sup>1</sup> For obituary notice see 'Auk,' XLIV, p. 594 and XLV, p. 1.

<sup>2</sup> " " " " " " " " pp. 156-157.

WALDO L. ABBOTT, Associate, died in his 90th year at Boston, Mass., Nov. 19, 1926.

JOHN WARREN ACHORN, Associate, died in 1926 (?)

MRS. HIRAM BYRD,<sup>1</sup> Associate, aged 53, died at Bradenton, Fla., Oct. 14, 1926.

MISS MARY STELLA CLARKE, Associate, aged about 64, died at Cape May, N. J., Jan. 15, 1927.

HENRY KELSO COALE,<sup>2</sup> Associate, aged 68, died at Highland Park, Ill., Oct. 13, 1926.

CHARLES A. DEWEY, Associate, of Rochester, N. Y., died June 13, 1927.

MISS MARY DRUMMOND, Associate, died in her 80th year, at Lake Forest, Ill., Apr. 22, 1926.

WILLIAM HENRY GRIM, Associate, of Hamburg, Pa., died in his 78th year, Dec. 26, 1926.

MRS. KINGSMILL MARRS, Associate, died at Boston, Mass., Sept. 23, 1926.

WILLIAM S. MCCREA, Associate, of Chicago, Ill., died May 27, 1927.

MISS LUCY N. MORRIS, Associate, of Montclair, N. J., died Oct. 5, 1927.

MRS. EDMUND QUINCY MOSES, Associate, of New York City, died in the spring of 1927.

CHARLES JACKSON PAINE, Associate, of Boston, Mass., died in New Brunswick, Aug. 4, 1926.

HENRY JOSEPH PERRY, Associate, of Boston, Mass., died Feb. 1926.

LE ROY TITUS WEEKS, Associate, of Tabor, Iowa, aged 73, died Mar. 4, 1927.

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<sup>1</sup> For obituary notice see 'Auk,' XLIV, pp. 162-163.

<sup>2</sup> " " " " " " " " p. 165.

#### GENERAL NOTES.

**The Razor-billed Auk in New Jersey.**—Occurrences of the Razor-billed Auk (*Alca torda*) in New Jersey are infrequent enough to warrant placing on record the appearance of an individual of this species at Wildwood, N. J., in May, 1927 (exact date unknown). The bird, an adult female according to a local taxidermist, was found on the ocean beach by F. Wayne Cole. It was in an exhausted condition but lived for several days after capture. The appearance of this species in May in this latitude is unusual, inasmuch as all other available records south of Long Island are from December to March inclusive. The specimen was mounted and is now on exhibition at the Wildwood Public School.—JOHN A. GILLESPIE, Glenolden, Penn.

**Franklin's Gull in Illinois.**—In my collection is a female *Larus pipixcan* taken at Mallard, Hancock Co., Ill., April 12, 1905, presumably by C. K. Worthen. I know of only three recorded captures of this bird in Illinois, namely: Warsaw, Hancock Co., May, 1875 (C. K. Worthen); Liter, April 21, 1882; Chicago, October 27, 1922 (C. C. Sanborn).—PIERCE BRODKORB, Evanston, Ill.

**Summering Bonaparte's Gulls at Lynn, Mass.**—The note on the summer occurrence of Bonaparte's Gulls in Rhode Island, given by J. T. Nichols in the October, 1927, 'Auk,' reminds me of a series of local summer dates for this species. I do not know whether Lynn Harbor comes within the limits of what Mr. Nichols considers southern New England or not, but it may be of interest to him to know, as he is somewhat familiar with our region, that during three summers, 1922, 1926 and 1927, Bonaparte's Gulls have been seen there and at such close range that all their points could be easily determined.

Beside the mouth of the Saugus River, as it enters Lynn Harbor, is a point of land which formerly was salt marsh, but some years since the river channel was deepened and the sand and mud therefrom was pumped on this point raising it well above high tide. A wooden bulkhead some fifteen hundred feet long was built along the harbor side to retain this dredging. The wash of the tide during several years has carried away the planking of this bulkhead leaving only a long line of posts connected at their tops by a heavy timber string-piece. At high tide this fence rail, if so it may be called, arises from the water from fifty to a hundred feet from shore. On this rail at this time of tide Gulls love to roost. From May to September the majority of these birds are of the smaller species, Ring-billed, Laughing and Bonaparte's with also many Terns. They are seldom molested on this bit of waste land, although in plain sight and only a minute's walk away is one of the busiest automobile thoroughfares in the state. For this



reason the Gulls are very tame and allow an observer to approach to the water's edge and study their markings at his lesiure.

On July 7, 1922, I visited the above locality and found about two hundred Bonaparte's Gulls, a few of which had black heads while many others ranged through varying degrees of smutty-heads to the usual plumage of winter; these last were in the majority.

During 1926, I visited the place on June 16, July 14 and 28, August 25 and September 6. On each date, except the last, there were about a hundred Bonaparte's Gulls present, on the last day there were only a few. On the earlier visits, there were about the same proportion of black and smutty headed birds to be seen as in 1922, but, as the season advanced, they decreased in number until only birds in the young or winter plumage were to be found.

This summer, 1927, I made visits to the locality on May 18, June 8 and 29, July 13 and 27, August 20 and 31, finding about the same number of birds and range of plumages as in 1926.

Neither Forbush nor Bent speak very definitely of the obvious habit of this species of summering on the Atlantic coast in some numbers when apparently it should be in northern Canada or on the Yukon. Evidently there is room for much interesting inquiry into the habits of the species, with the possibility of finding some breeding station nearer New England than is now known.

The records given above for 1922 and 1926 were published in 'The Bulletin of the Essex County Ornithological Club' for those years.—ARTHUR P. STUBBS, 14 Fiske Avenue, Lynn, Mass.

**Occurrence of the Old-squaw (*Clangula hyemalis*) at Athens, Clarke Co., Georgia.**—Within a mile of the city limits of Athens, and on the grounds of the Athens Country Club, lies a small lake covering approximately four acres that affords exceptional opportunities for the study of migrating water fowl. It is the only body of water of any size where hunting is prohibited, and Ducks can be found there throughout the fall and early spring, and to a limited extent even during the winter months. On December 19, 1926, after four days of clear cold weather, with the temperature each morning between 24 and 28° F., a female Old-squaw appeared. I knew of no previous record for this species in the state. The bird was feeding close to the shore, diving repeatedly for food during the few minutes it was watched, and was not very timid, permitting me to stand within a hundred feet of it without showing much concern. At the farther end of the lake were seven Scaup Ducks (*Marila affinis*) but the Old-squaw showed no desire to join them, nor, did it utter any sound whatsoever. The following day I found it still there, and for almost a month it lingered retaining its unsociable disposition, and its silence. The Scaups seen from day to day varied considerably in number. On the 15th of January the temperature dropped abruptly to 16° F., and when on the following morning I went to the lake I witnessed a rather



interesting sight. The entire lake was covered with a sheet of ice, with the exception of an opening possibly ten feet across, that I am confident was only prevented from freezing over by the untiring activity of the Old-squaw. There was certainly no other reason why there should have been any open water, for the ice was tested near the shore and found to be almost half an inch thick. While I watched the bird, and it showed remarkably little fear of me, it was continually diving and coming up where the thin ice was forming at the edge of the open water and breaking it off, in this way unquestionably keeping itself from being gradually frozen in and forced to hunt other open water. Undoubtedly the desire for food was responsible for much of this activity, but it was interesting to note that it never came up except where the thin ice was forming. It was a losing fight, however, for the temperature dropped even lower that night, and the following morning I found the lake finally frozen over and the bird gone. Almost three months later, on the 10th of April, there occurred here an unusual and unexpected flight of Red-breasted Mergansers (*Mergus serrator*), flocks appearing that day on practically all the bodies of water of any size about Athens, and in one flock resting on the city reservoir I was very much interested to see a female Old-squaw. I had no way of knowing of course that this was the same bird that I saw in December.—THOS. D. BURLEIGH, *Athens, Clarke Co., Georgia.*

**Canada Goose Migration at Saginaw, Mich.**—Just for the purpose of recording date of migration I have the following to tell about the southward movement of Canada Geese over the Saginaw, Michigan, district:

A great many residents of Saginaw were awakened shortly after midnight the morning of October 29, 1927, by the calls of Wild Geese. The early part of the night was clear, but shortly after midnight a thunder storm came up. Whether the Geese were confused by electric lights of the city is a question, but from all parts of the city came reports of these circling Geese and their calling. These Geese were reported from so many different parts of the city that an unusual number of them must have been circling the town over a wide area.

Saturday morning, October 29, I went to see if I could find a Woodcock or two, and drove forty miles north of Saginaw to the headquarters of the Kawkawlin River. There two farmers told me the same story about Geese calling in the night and quantities passing there. It was just 9:00 A.M. and I could still hear Geese calling and see them high in the sky in flocks of a hundred, two hundred or three hundred passing south, so there must have been a very large migration extending over a wide pathway.—W. B. MERSHON, *Saginaw, Mich.*

**Whistling Swan at Marthas Vineyard, Mass.**—On July 28, 1927, eight white Swans, probably *Olor columbianus*, were seen off Marthas Vineyard, Massachusetts. They were on the ocean about two miles to the southwest of Gay Head, between that promontory and the island of

No Mans Land. They were shy and rose from the water and flew off to the northwest when our sail boat approached within a third of a mile.

These birds are rare winter visitors here, but summer records, I believe, are lacking.—STANLEY COBB, M.D., *Harvard Medical School, Boston, Mass.*

**King Rail Capturing a Common Crab.**—While looking for birds near a tidal pool at Cape May, N. J., September 4, 1927, a King Rail (*Rallus elegans*) suddenly appeared from the grass and deliberately walked out to the edge of a shallow stream which traversed the muddy bed of the pool. Slowly and with mincing step the Rail made his way down the middle of the stream swinging his bill from side to side in the water as he moved along. At intervals, he stopped and swallowed any morsel captured.

Just as the Rail reached the center of the pool bed, he suddenly jumped back and at the same moment I saw a common blue crab throw up his claws in defense. The Rail eyed the crab a moment and then to my surprise gave the crab a vicious jab and then jumped back as before. These tactics were repeated until the crab had lost one claw and was very much subdued.

The Rail then deliberately picked up the weakly protesting crab and laid it on its back in the mud. As it did this I could see that the crab measured about three inches across the shell.

After placing the crab on its back, the Rail raised himself on his toes and lifting his bill as high as possible came down with all the force that he could muster, striking the crab in the middle of its lower shell. Repeated blows rendered the crab inert.

Apparently satisfied that the crab was completely subdued, the Rail lugged it off to a place near the edge of the grass, battered it to pieces and consumed it. The carapace was left intact.

The meal seemed to satisfy the Rail for he afterwards stood about for some time pluming and arranging his feathers.

About fifteen minutes elapsed between the first blow struck and the final knockout.—JULIAN K. POTTER, *Collingswood, N. J.*

**The Red Phalarope, (*Phalaropus fulicarius*) in Ohio.**—A fine young male specimen of this species was taken on the Scioto River, several miles north of Columbus, in Delaware County, Ohio, on the evening of September 29, 1927. The specimen was first seen by Charles F. Walker and was collected by Milton B. Trautman. From all reports examined it is the first Ohio specimen of the species to be preserved in any scientific collection. In the 'Ohio Agricultural Report' for 1861 Dr. J. M. Wheaton stated on the authority of Mr. R. K. Winslow of Cleveland "that two or three specimens had been taken on Lake Erie." Every statement made since, concerning the species as an Ohio bird, has been based on this one. The statement is indefinite as there is no evidence that the specimens were

preserved, so the present record accompanied by a good skin, preserved in the Wheaton Club Collection at the Ohio State Museum, is a notable addition to the bird fauna of Ohio.—JAMES S. HINE, *Ohio State University, Columbus, Ohio.*

**An Unpublished Record of the Eskimo Curlew for Wisconsin.—**

I have in my collection an Eskimo Curlew (*Numenius borealis*) the record of which apparently has not been published. It was taken by Mr. Delos Hatch, Mar. 22, 1903, (original label) on the Horicon Marsh at Leroy, Fond du Lac County, Wis. I made a considerable trip last fall to check up the data and Dr. H. C. Oberholser substantiated the identification of the bird while visiting here last year. I have some doubt as to the collecting date, but that it was taken in the spring of that year is without question. The specimen was not sexed.—OSCAR P. ALLERT, *McGregor, Iowa.*

**Flight of Hudsonian Curlew over Barnegat Bay.**—One of the largest southward flights of Hudsonian Curlew (*Numenius hudsonicus*) that Barnegat Bay, Ocean County, N. J., has witnessed in many years was recorded between July 14, and 19, 1927. Only a few years ago this bird was considered rather rare about Barnegat, and was usually seen in numbers only during strong south or south-west July winds, when it followed a course parallel and close to the west or landward side of the Bay. I have spent practically every week-end in the Barnegat region during the south Shorebird migration since 1923. In 1923 I saw but two Curlew on the southern flight; in 1924 but two; in 1925, 4 records with a total of 31 birds; in 1926, 3 records with a total of 98 birds, the largest number (72) on July 18 flying over the ocean past Point Pleasant.

The 1927 southern flight started early. Dr. Wm. B. Ley of Elizabeth, while fishing on the Bay, saw 4 Curlew on July 2 and about 20 July 9. On July 12 Mr. Oscar Ayres and other Barnegat guides noted the beginning of what proved to be a very large flight. The wind that week blew fresh, chiefly from south to south-west and small flocks of Curlew began to pass Barnegat dock, coming from the north-east, most of them apparently entering the Bay over the outer strip north of the Forked River Coast Guard Station. The wind held and the flight increased through the 13th, 14th and 15th. On the 16th Dr. Wm. B. Ley, who spent the entire day about the Bay, estimated fully 1,500 passing birds, this total being confirmed by the observations of others. On the 17th Dr. Ley and Mr. Ayres reported a large early flight passing the Barnegat dock. Mr. M. S. Ley and I reached the dock about 9 a.m. on that day and in a little over three hours we counted 311 birds. They were passing in waves at irregular intervals at the rate of about 100 an hour and over two relatively narrow courses. I am informed that the flight continued through the afternoon of July 17, tapering off through the 18th and 19th and dropping sharply after that date. However there was a fairly large scattering southern

movement through the remainder of the month and well into August. I believe a minimum estimate of 5,000 Curlew passing over Barnegat Bay in the daylight hours from July 14 to 19 would be very conservative. Some who witnessed the flight place the number at several times that figure.

It is interesting to note that no Curlew were seen passing Barnegat City at the ocean inlet five miles east of Barnegat on July 17 by Mr. Allen Frost of Poughkeepsie who spent part of the day bird hunting on the outer strip. At Point Pleasant, on the ocean and about 25 miles north of Barnegat City, early in the morning and during the afternoon of July 17 the writer saw no Curlew pass either over the ocean or over the ponds inside the beach, the latter route being occasionally used. Nor were any Curlew seen earlier in the week at Point Pleasant by my son, Stephen, who spent much of his time on the beach fishing. Evidently the big flight that passed Barnegat dock passed Point Pleasant over the ocean too far out to be observed.

Guides about Barnegat very generally remark that the Curlew flies south against an opposing south or south-west wind rather than with a favoring wind. That Shorebirds prefer to migrate on an opposing or cross-wind has been observed by others. The question arises in the case of the Curlew, whether the reason for its appearance in numbers during the southward migration on the west side of Barnegat Bay only when strong south or south-west winds prevail may not lie in the fact that under these conditions the birds are seeking a more sheltered course, while under more favorable weather conditions the flight passes unseen at sea. On July 17 I noticed that several of the flocks crossing the marsh dropped so low in following the marsh creeks that they were out of sight below the short marsh grass, the evident purpose being to avoid the wind. The Curlew is such a long range flier that it seems improbable that weather conditions at the start of its flight should be consistently similar to those prevailing as it passes the New Jersey coast.

Curlew as a rule rarely alight during southward migration on the Barnegat marshes. More stop to feed and rest on the Sheep Head and Absecon marshes further to the south, in fact the bird appears to have been commoner in recent years south of Barnegat Bay than about the Bay or further north on this coast. Those baymen from Beach Haven, N. J., southward, with whom I have talked, while agreeing that the 1927 southward flight was the largest in many years, state that for a number of years upwards of one thousand Curlew have been seen passing south each July over the Sheep Head meadows or vicinity.

Records from Long Island during the 1927 season also indicate a substantial increase in the southern Curlew migration. Mr. J. T. Nichols of the American Museum of Natural History in 'The Auk,' 1921, p. 111, estimated the annual southward flight of Curlew passing Long Island as one thousand. He estimated the 1927 flight on similar data as four thousand. He writes: "In my opinion there has been a very unusually large number present on

Long Island this year, as many or more than in any previous year of which I have cognizance . . . but I have been out comparatively little and have not as good data on which to base an estimate of numbers as in 1921." Mr. Nichols is of the opinion that all the birds seen in New Jersey do not pass over Long Island.

Mr. Ludlow Griscom also states that reports reaching him indicate a substantial increase in the southern flight of Curlew down the Atlantic coast in 1927.—CHARLES A. URNER, *Elizabeth, N. J.*

**Hudsonian Curlew in southern New Jersey.**—Hudsonian Curlew seem to have always been much more abundant in southern New Jersey and occur every year in large numbers in May and again in July and August, from the marshes back of Sea Isle City, south to Cape May, and some remain until early September. The southward flight begins early in July and seems to be always during a southerly wind, no birds moving when the wind is from the north although there may be plenty of them on the marshes. The line of flight in South Jersey would seem to be over the land but north of that it must normally be over the sea to judge by the experience of Mr. Urner and others at Barnegat Bay, and I question whether any flight occurs during a north wind.—WITMER STONE, *Academy of Natural Sciences, Philadelphia.*

**Hudsonian Godwit in New Jersey.**—On July 3, 1925 the writer observed a Hudsonian Godwit (*Limosa hæmastica*) in full breeding plumage flying north over the salt marshes of Elizabeth, N. J. The bird, picked up with a glass in the distance and coming on, was first taken to be a Black-bellied Plover because of the dark appearance of the breast. But, passing at close range, the long, apparently straight bill, richly colored underparts, black tail and white rump or upper tail were well seen.

I have questioned a number of guides about Barnegat Bay as to the status of this species in that section of the state. There it is usually referred to as the "Marlin" and Capt. Chadwick of the Sandy Isle Gun Club reported to me that he had seen three in the fall of 1924. When I visited Barnegat dock on July 17, 1927, I was informed by some of the guides that there were a few "Marlin" in the big flight of passing Curlew. Securing a boat Mr. M. S. Ley and I rowed out to one of the lines of flight where Curlew were crossing the marsh very low. We had not been there long when two birds passed, somewhat smaller than the Curlew, with apparently straight bills, darker, not brown, upper parts, a wing pattern, dark tails with a conspicuous white band at the base. The under parts were not as well seen as the backs, the birds passing quite low. Under the wing the feathers seemed dark but the breasts relatively lighter. I identified them as Hudsonian Godwits, either immature or adults in fall or changing plumage. Later five other birds, two with rather dark under parts, passed at a greater distance. They were probably, not positively, this species.—CHARLES A. URNER, *Elizabeth, N. J.*



**Nesting Habits of Mourning Doves.**—While the Mourning Dove (*Zenaidura m. macroura* and its subspecies) is a common and well-known bird throughout the greater part of the United States there are certain interesting habits relating to their mode of nest building which I have never seen recorded and which, I believe, are not mentioned in any of our ornithologies. Both birds of a pair of Doves engage in the search for the nesting site but the final choice rests with the female. When the site is finally decided upon the female settles herself there and builds the nest under and about herself from material brought to her by the male. The latter flies to the ground, searches about until a stick is found, tests it out by shaking it vigorously, and then flies back to the nest with the stick in his beak. The female takes the stick from him upon his arrival at the nest and places it. The male of a pair under observation carried a stick about every two minutes while the female was upon the nest.

After the nest is well under way, the male "drives" the female whenever she leaves the nest and continues until she returns to her post and the building is then resumed. "Driving" is a term employed by pigeon breeders and refers to the male's habit of following the female about and pecking at her until she returns to the nest. The nest building habits of the Mourning Dove are strikingly similar to those of the Domestic Pigeon. I have observed these habits on several occasions in Florida, Kansas, and California, so presume they are universal among Doves of this species. My notes indicate that the eggs of Mourning Doves are usually laid in the afternoon with an intervening period of about 48 hours between the two.—FRANK F. GANDER, P. O. Box 395, E. San Diego, Calif.

**A Swallow-tailed Kite in Westchester County, New York.**—On October 2, 1927, I saw a Swallow-tailed Kite (*Elanoides forficatus*) at Chappaqua, Westchester County, New York. The Kite was flying in large circles and was almost directly over my own residence when I first saw it. It was not more than 250 or 300 feet from the ground and its striking characteristics were so easily observable as to leave no question about its identity. The bird flew in large circles which took it gradually out of sight in a southwesterly direction.—CLIFFORD PANGBURN, Chappaqua, N. Y.

**Double Ovaries in *Circus hudsonius*.**—On June 23, 1927, a female specimen of *Circus hudsonius* was collected by the the writer at Long Point, Norfolk County, Ontario, which upon dissection was found to possess paired ovaries lying ventral to the kidneys and distinctly separated from each other on the two sides of the median vertical plane. The follicles of both ovaries were enlarged giving the appearance of a functional condition in both organs.

The pelvic arch with the organs was preserved in alcohol and has recently been examined by Dr. Alexander Wetmore who remarks that this condition is known to be of regular occurrence in some forms of Hawks, par-



ticularly in the female Sharp-shinned Hawk among American species. From this record it appears that it may occur also in *Circus*, a matter that should be investigated as opportunity offers.

It is of interest to add that this specimen exhibited the more or less rare or little known streaked plumage of this species.—L. L. SNYDER, *Royal Ontario Museum of Zoology, Toronto, Ontario.*

**Horned Owl Migration in British Columbia.**—While no Snowy Owl flight took place in British Columbia last winter there was an invasion of Horned Owls (*Bubo virginianus* subsp.) and Goshawks (*Astur atricapillus*); the former on the coast region only; the latter general throughout the Province.

During the period from October, 1926, to January 1927, 287 Horned Owls were brought into the City of Victoria, either to the local taxidermists or to Lenfesty's sporting goods store. The latter paid a bounty of fifty cents on each bird and obtained a refund for this expenditure by selling them to the Chinese who used the flesh as the chief ingredient in making chop-suey. It seems rather a pity that someone did not take advantage of this unusual opportunity to secure a large series of skins. It is interesting to note that the last invasion of Horned Owls occurred ten years before during the winters of 1915-16 and 1916-17. No marked increase was noted in the Okanagan Valley during either of these invasions, the migration being apparently confined to the Coast region.

An unusual number of Goshawks was observed in the Okanagan Valley during the months of November and December 1926; a large percentage of those taken being adults. A similar flight was reported from the coast region and from the Province of Alberta.

Three Gray Gyrfalcons (*Falco rusticolus rusticolus*) were taken in the vicinity of Okanagan Landing: immature male, November 6, 1926; adult female, February 18, 1927; and immature not sexed shot early in March, 1927. A fourth specimen was taken near Victoria some time during December, 1926.

Hawk Owls were unusually abundant in the Okanagan Valley during November, 1926. This species also was taken on Vancouver Island where it is rare. One of the Victoria taxidermists received two specimens taken in October, 1926; one from Alberni and one from Nanaimo.—J. A. MUNRO, *Okanagan Landing, B. C.*

**Some Late Records of the Snowy Owl for Southern Ontario.**—In "The Snowy Owl Migration of 1926-27," by Alfred O. Gross,<sup>1</sup> the latest date recorded for the spring (of 1927) was "during the first two weeks of April." A few records for southern Ontario which are later than April are recorded in this note.

The birds appeared in the Toronto region during the first two weeks of November, 1926, the first record on file at the Museum being that of one

<sup>1</sup>'Auk,' XLIV, No. 4, Oct. 1927.

seen on November 13. From this date until well into January, 1927, they were commonly reported but during the latter part of the winter they became scarcer. Very few were seen in the spring, but odd reports were received from March, April and May, the last date for Toronto being May 22, on which date members of the Brodie Club on their annual field day flushed two birds from the marsh at Ashbridges Bay. A still later date for southern Ontario was made at Long Point, Lake Erie, when members of the Museum staff observed three individuals in the extensive marsh between May 25 and June 13, on which latter date the last was seen.—JAS. L. BAILLIE, JR., *Royal Ontario Museum of Zoology, Toronto, Ontario.*

**Kingfisher and Sharp-shinned Hawk.**—On August 31, 1927, at the Upper Geyser Basin in the Yellowstone National Park, I was following up the bank of the Firehole when a Belted Kingfisher flew up the River. Just after it had passed me, a Sharp-shinned Hawk darted out of a grove of lodgepole pines on the shore and gave chase. As soon as the Kingfisher saw his pursuer, he began to scold and sound his "rattle" in excited, piercing tones. As he darted along, he first tried to outfly the Hawk, but the latter bird was much swifter and gained rapidly. The Kingfisher then began to dodge and zig-zag his flight, maintaining a height of about twenty feet above the surface of the water. But the Hawk could turn and twist more quickly than the Kingfisher which had been getting more and more excited and its calls shriller. As the Hawk almost reached its prey, the Kingfisher suddenly turned and shot down into the water. The baffled Hawk tried to follow, at least when the Kingfisher first turned, but its impetus was too great and it could not stop. Then, upon seeing its prey disappear in the water, the Sharp-shin flew on to a perch on the railing of a foot-bridge. Meanwhile the Kingfisher remained under water for perhaps a minute, and then came to the surface of a quiet pool. Upon finding his enemy gone, the Kingfisher flew quietly up-stream and alighted on the other rail of the foot-bridge. Here he rediscovered his enemy sitting on what was his own favorite perch, and immediately recommenced his excited, shrill, rattling screams.

For a few minutes the relative position of the two birds was maintained, and then the Hawk shot at the Kingfisher again. But the latter flew away up-stream with the Hawk in hot pursuit. This chase was a repetition of the first one except that when the Kingfisher dived, the Sharp-shin recovered from its impetus and swung around in a circle so that it was above its prey when the Kingfisher reappeared. The Kingfisher was not to be caught napping, but remained *swimming on the surface* of the water. This swimming was not like a Duck, but more awkward and with a constant beating of the wings. As the Hawk swooped, the Kingfisher dived again. For a few moments the Hawk circled about above the spot, and then finally flew away up the Firehole River past Old Faithful Geyser. After seeing his enemy well on his way, the Kingfisher rose from the water, flew

to the branch of a dead tree on shore, erected his crest, jerked up his tail five or six times, and uttered a long loud rattle that seemed the very acme of triumph and scorn over the defeated enemy. (In this connection see "Kingfisher and Cooper's Hawk" by Dr. Johnson, 'The Auk,' Vol. XLII, No. 4. October, 1925. Pp. 585-586.)—M. P. SKINNER, 44 Broadhead, Ave., Jamestown, N. Y.

**An Albino Kingbird.**—On August 4, 1927, W. L. Burnett of the Agricultural College Museum and I were driving just north of Briggsdale in Weld County, Colorado. I saw a white bird sitting on a barbed wire fence beside the road. As soon as Mr. Burnett could stop the car I got out, greatly excited, but managed to get the bird. All the body plumage is snow white. Wing and tail feathers are a pale lemon yellow, with white shafts. In the dried specimen the feet are a light horn color. The bill is of much the same color, mottled and tipped with darker horn color. The eyes were dark as in a normal bird. That night I found that all the inner surface of the skin was creamy white. It is a nearly full grown, young Kingbird. The other members of the family were normal in plumage.—KENNETH GORDON, Ft. Collins, Colo.

**Long-crested Jay in Quebec.**—On November 8, 1926, my wife, Mrs. Bernadette H. Langelier, killed here at Cap Rouge, in the woods of the Experimental Station, a Long-crested Jay. We were accompanied by a well-known guide, Mr. Jean Boivin, of Atalante, Que.

I believe that the Long-crested Jay has never been reported from the Province of Quebec, and I am sure that it is not mentioned in Dionne's 'Les Oiseaux de la Province de Québec.'—GUS. A. LANGELIER, Cap Rouge, Quebec.

**Starling finally Reaches Atlanta, Ga.**—On September 26, Mr. George Dorsey, an enthusiastic bird student, telephoned to me that he believed he had seen two Starlings (*Sturnus vulgaris vulgaris*), from the electric car while en route to the city and asked me to go out and see if I could find them. I went out to the spot mentioned, scoured the country, but could not locate them. The next day, Sept. 27, he telephoned me again that he had identified the birds at the same place, so I went out and this time was fortunate enough to find one perched on a wire, and as it stayed in that vicinity for some time I had the opportunity of observing it for almost an hour. Although this species has been observed at Athens and other points in the state, this is probably the first record of its appearance in or near Atlanta. Although giving it a doubtful welcome we will add it to our lists of Atlanta bird life.—EARLE R. GREENE, Manor Ridge Drive, Atlanta, Ga.

**Starling in Southern Iowa.**—In December, 1922, while visiting my parents at Lamoni, Decatur County, Iowa, a friend came to me with a bird for identification. He said some boys had caught it in a barn loft

the night before while catching Pigeons, and not recognizing it, he secured it from them. When he showed it to me I immediately recognized it as the Starling in its brilliant "frosted" or speckled plumage, although I had never before seen one. I wanted him to let me preserve it as a skin, but the bird was alive, and his sister made him release it. Since then I have not been there enough to know if the species has established itself. I would like to know if the bird has been recorded from Iowa before, and if so the date and locality. The bird was evidently a straggler, as we had had cold weather and blizzards for the past week or two.—W. S. LONG, 1002 Linden St., Independence, Mo.

**Late Nesting of Indigo Buntings and Field Sparrows in South-eastern Ohio.**—On September 4, 1927 in Athens County, Ohio, I saw a female Indigo Bunting (*Passerina cyanea*) with a berry in her bill; a little later the baby bird appeared; it could fly well, but its tail was only a half inch long. On the 10th, the mother was feeding two young whose tails were half-grown and whose bills had the characteristic yellow look of immature birds. On the 14th, the family was still together in the same thicket; the three fully grown young caught insects, preened themselves and quarreled—when one attempted to alight near another, the latter promptly drove it off.

Another female of this species objected to my presence Sept. 5 and Sept. 10 in a locality a quarter mile from the others; on the latter date I saw a young bird with a half-grown tail. In neither family was the male seen.

A nest of Field Sparrows (*Spizella pusilla pusilla*) was found September 4 three feet from the ground in a little oak; in it were three well feathered young that left the next day. This nest was conspicuous and most unusual in the fact that it was loosely constructed out of nothing but grass stalks except for a few horse hairs as lining; the outside was not woven into a cup shape, but the stalks stuck out in every direction. On the 10th both parents scolded when I approached the young that seemed fully grown except that their tails were not quite the proper length.

It may be that the unusually wet season was responsible for the delay of these nesting operations so far beyond the normal time.—MARGARET M. NICE, 156 West Patterson Ave., Columbus, Ohio.

**Lawrence's Warbler in New York.**—On July 20, 1927, on my place at Mt. Kisco, N. Y., I observed an adult male Lawrence's Warbler (*Vermivora lawrencei*). The bird was accompanied by two young.

Two years ago, at about this date, a Lawrence's Warbler was seen near this spot.

The Golden-winged Warbler is rare in this part of Westchester Co., but the Blue-winged Warbler is a common summer resident.—MARCIA M. B. TUCKER, Mt. Kisco, N. Y.

**Occurrence of the Connecticut Warbler (*Oporornis agilis*) at Athens, Clarke Co., Georgia.**—On May 8, 1927, while in a stretch of

thick swampy woods bordering the Oconee River a few miles north of Athens, a small bird flew into a bush thirty feet ahead of me and on looking at it through my binoculars I saw that it was a male Connecticut Warbler. For seven years I had watched in vain for this species here, spending many hours in woods where I felt there was the strongest possibility of finding it, so my pleasure at finally seeing one can be easily realized. Unfortunately it soon flew, and although I searched carefully it could not be found again. The following week, on May 15, while in another rather thick swampy wood bordering Sandy Creek, a small stream flowing into the river three miles north of town, another male was seen, and this time collected. It was perching quietly in a bush within a foot of the ground and would have been passed unobserved had it not suddenly sung as I stood within twenty feet of it. The song, which I heard several times, was loud, ringing and emphatic, and resembled more than anything else that of a Northern Water-Thrush. Descriptions I have read compare it favorably with the song of the Ovenbird, but I personally could see no resemblance whatsoever, and feel this comparison is not very apt. These birds are said to rarely sing in migration, but I doubt if a fuller more vigorous song could be heard on their breeding grounds, and the privilege I was accorded was by no means unappreciated. Earle R. Greene recorded this species for the first time this past spring at Atlanta, Georgia ('The Auk,' July 1927), and R. J. Longstreet had a similar experience at Daytona Beach, Florida, ('The Auk,' October 1927), so my records are of interest in confirming an unusual migration of these birds through the southeastern states this past May.—THOS. D. BURLEIGH, Athens, Clarke Co., Georgia.

**The Nashville, Wilson's, and Connecticut Warblers in South Carolina.**—On April 27, 1927, I collected a male Nashville Warbler (*Vermivora rubricapilla*) in some cut-over woods about two miles from Clemson College. This bird was discovered in a small tree about thirty feet from the ground; I fired immediately, securing it in splendid condition. I did not hear this bird sing.

The only other records that I can find of this species for the state are: Dr. Coues (Proc. Bost. Soc. Nat. Hist., 1868, 109) includes this species in his list of South Carolina birds, but Wayne ('Birds of South Carolina,' 1910, 222) says that this "record requires confirmation, as the Nashville Warbler is known to be very rare in the South Atlantic states." It was later recorded tentatively on the authority of Mr. Kershaw who recorded seeing one in April 19, 1909, near Aiken, S. C. (Bull. of The Charleston Museum, Vol. 8, No. 3).

On May 14, 1926 I took a male Wilson's Warbler (*Wilsonia pusilla*) within a mile of the College. This bird was in poor plumage. I also took another male on May 17, 1927. This bird was singing, and was in good plumage. There are very few records of this species for the state, although it is considered to be a rare though regular spring migrant in the Piedmont section.



On May 20, 1927 I collected a male Connecticut Warbler (*Oporornis agilis*). This bird was singing from a low bush on a shady hillside, and as I approached he flew to the ground where I shot him. When on the ground he walked after the manner of an Ovenbird. I can discover but one other spring record of this species for South Carolina.

Clemson College is located in Pickens and Oconee counties in the Upper Piedmont section of the state, near the Blue Ridge Mountains.—G. E. HUDSON, *Clemson College, S. C.*

**A Northern Race of the Mountain Chickadee.**<sup>1</sup>—Washington and Idaho collections recently acquired by Mr. Donald R. Dickey contain representative series of *Penthestes gambeli* which could not be identified with any of the currently recognized forms.<sup>2</sup> Further material borrowed from the Museum of Vertebrate Zoology shows the need of naming still another race which in view of Dr. Joseph Grinnell's extensive studies in this species, I take pleasure in naming.

*Penthestes gambeli grinnelli*, subsp. nov. Northern Mountain Chickadee.

*Type*.—Male in freshly acquired fall plumage; no. 20,268, collection of Donald R. Dickey; Priest Lake, Bonner County, Idaho; altitude 2450 feet; August 15, 1927; collected by C. F. Hedges; original no. 2725.

*Subspecific characters*.—In relative proportions of wing and tail *Penthestes gambeli grinnelli* most closely resembles *Penthestes gambeli gambeli* (Ridgway), from which it differs in smaller size and darker coloration. On interscapular region it is of the identical shade of *Penthestes atricapillus* (Linnaeus).

*Range*.—East-central Oregon, eastern Washington and northern Idaho north through British Columbia to Doch-na-on Creek on the Stikine River. Occasionally wandering west of the Cascades as at Tacoma, Pierce County, Washington, December 21, (Dickey collection), and Hope, British Columbia (Brooks and Swarth, 'Distributional List of the Birds of British Columbia,' 1925, p. 117).

*Remarks*.—In relative darkness of tone *grinnelli* bears much the same relation to *gambeli* as *Penthestes gambeli baileyae* Grinnell does to *Penthestes gambeli abbreviatus* Grinnell.

The intergradation point between *grinnelli* and *abbreviatus* is in east-central Oregon but the material from that section is too scanty to permit drawing a definite line. One fresh-plumaged bird (no. 547 Museum of Vertebrate Zoology) from Anthony, Baker County, Oregon, is decidedly closer to the former, while three from Prineville, Crook County (in the same collection) are better referred to *abbreviatus*. Of these three, two are

<sup>1</sup> Contribution from the California Institute of Technology.

<sup>2</sup> For treatment of many points concerning the geographic variation to which this species is subject, see Grinnell, Univ. Calif. Pubs. Zool., 17, 1918, pp. 505-515, and Grinnell and Swarth, Univ. Calif. Pubs. Zool., 30, 1926, p. 164.



in extremely worn plumage and thus virtually worthless for color comparison. The third, a juvenile, is not distinguishable from Sierra Nevada juveniles. Grinnell (p. 513) mentions a bird from Camp Harney, Harney County, which from his remarks I judge to be intermediate. Just where in the Rocky Mountains *grinnelli* meets *gambeli* I do not know. Specimens listed by Grinnell from various points in Montana and Wyoming indicate the area of intergradation at least in measurement.

In making color comparisons I have assumed birds from San Francisco Mountain, Arizona, to be typical of *gambeli*.

*Specimens examined.*—*Penthestes gambeli gambeli*: Colorado: Hall Valley, 1. Arizona: vic. San Francisco Mountain, 9; Sierra Ancha, 1; total 11. *Penthestes gambeli abbreviatus*: Oregon: Crook County (Prineville, 3). California: Modoc County, 3; Siskiyou County, 11; Lassen County, 1; Plumas County, 3; Sierra County, 9; Eldorado County, 15; Mono County 1; total 45. *Penthestes gambeli grinnelli*: British Columbia: Nine Mile Mountain, NE Hazelton, 2; Stikine River at Doch-na-on Creek, 5; Atlin, 1; Okanagan Landing, 2. Idaho: Kootenai County (Coeur d'Alene, 6); Bonner County (Priest Lake, 2; Hunt Creek, 3). Washington: Okanagan County (Lost Rim, 1); Ferry County (Curlew Lake, 4); Benton County (Prosser, 2); Pierce County (Tacoma, 1, December 21). Oregon: Baker County (Anthony, 1); total 30. *Penthestes gambeli baileyae*: large series from southern California. *Penthestes gambeli inyoensis*: White Mountains of California, 6.

*Measurements* (in mm.).—

	Wing	Tail
<i>Penthestes gambeli gambeli</i> : 10 males from Arizona and Colorado.	68.0–73.0 (70.6)	59.0–67.5 (62.9)
<i>Penthestes gambeli grinnelli</i> : 12 males from Oregon, Washington, Idaho and British Columbia.	64.5–69.0 (66.5)	56.0–60.5 (58.3)
<i>Penthestes gambeli abbreviatus</i> : 26 males from California.	66.0–71.5 (69.0)	54.0–61.0 (58.1)

—A. J. VAN ROSSEM, Pasadena, California.

**Records from Delaware Water Gap, N. J.**—In an effort to further the plans of the Linnaean Society of New York for a general survey of the breeding birds in the least known sections of northern New Jersey the writers spent the evening of June 18 and all of June 19 about the southern end of the Kittatinny Ridge at the Delaware Water Gap, on the New Jersey side of the Delaware River. We had but an hour or two for observation on the 18th and heavy rains all day on the 19th curtailed our lists. But one or two items are worth recording. On June 18 we discovered two singing Magnolia Warblers (*Dendroica magnolia*) and one young, along

the river road north of Kamp Karamak. One adult, followed by a young bird, was found near a recent planting of spruce between the road and the river. This evidence of the breeding of this species extends its summer range in the state southward from Flatbrookville, N. J., near the Delaware where, two years previously, Mr. Philip Kessler had found a young bird being fed by an adult. Mr. Neumarker, who manages Kamp Karamak informed us that a Cardinal had been seen there the past year and he described the bird accurately enough to leave no doubt of its presence. The locality thus seems to have the distinction of bringing the summer ranges of these Canadian and Carolinian species to a meeting point.

Along Dunnfield Creek, which for scenic beauty rivals any brook in the state, we found a singing Solitary Vireo (*Lanius s. solitarius*), another being found singing further up the ridge—the only species with courage to sing in the driving downpour. This record we believe extends southward the known summer range of this bird in the state. Workings, both old and new, of the Pileated Woodpecker were frequently met.—IRVING KASSOY, JOHN F. KURZI, JOHN F. MATUSZEWSKI and CHAS. A. URNER.

**Notes from Madison, Wisconsin.** *Mareca penelope*. EUROPEAN WIDGEON.—One was observed in a flock of Baldpates at the northern end of the bar in University Bay, on April 3, 1927. The birds flushed before I could approach sufficiently close to chance a shot.

*Phalaropus lobatus*. NORTHERN PHALAROPE.—The capture of one bird has been recorded ('The Auk,' 1926, p. 557). On October 14, 1927, I collected a male at a pond near Springfield Corners.

*Telmatodytes palustris iliaceus*. PRAIRIE MARSH WREN.—I had identified the breeding form as *iliaceus*. Noticing in a recently installed group of marsh birds in one of the museums of the state, the designation *T. p. palustris*, I collected this spring additional specimens from Dane County. These were forwarded to Dr. H. C. Oberholser, who confirmed them as *iliaceus*. If *T. p. palustris* occurs in the state, its presence must be casual or accidental.

*Agelaius phoeniceus arctolegus*.—Dr. Oberholser has identified the breeding birds of Dane County as *arctolegus*, the northern representative of the Thick-billed Red-wing (*A. p. fortis*). The status of *Agelaius* in the state is under investigation.—A. W. SCHORGER, 2021 Kendall Avenue, Madison, Wis.

**Additional Notes on the Birds of the Elk Mountain Region, Colorado.**—In 'The Auk,' Vol. 33, No. 3, July 1916, pp. 292-317, I published "Notes on the Birds of the Elk Mountain Region, Gunnison County, Colorado." The following notes are supplementary to that paper. I was in that part of Colorado in July, 1927, from the first to the twenty-sixth, though I by no means visited all the region covered by the former paper. All of the following notes were made about Crested Butte, Lake Brennan, at Irwin, and on or about Anthracite Creek to the westward. I

did no collecting, and was paying more attention to the study of beaver work than to anything else, so that my bird notes were rather incidental. I added four species to my former list, however, Wilson's Snipe, Western Solitary Sandpiper, Western Savannah Sparrow and Western Yellowthroat, and have notes of interest about other species.

*Gallinago delicata*. WILSON'S SNIPE.—The morning of July 23 I flushed a Snipe from marshy ground between Slate River and a nearby pond near Crested Butte. This is my first record of the species for the region. The date indicates the possibility of its being a breeder.

*Helodromas solitarius cinnamomeus*. WESTERN SOLITARY SANDPIPER.—July 17 I saw at least one Solitary Sandpiper along Anthracite Creek, about fourteen miles west of Crested Butte. This also is an addition to my list.

*Actitis macularia*. SPOTTED SANDPIPER.—July 11 and 12 Spotted Sandpipers were as numerous along Slate River above Crested Butte as I have ever seen them at any place. As we followed up the course of the stream looking for and examining beaver work, there was hardly a moment when there was not one or more of these birds in sight. On July 19 and 20 I saw at a beaver colony near Anthracite Creek a Sandpiper accompanied by young less than half grown. On the first mentioned day there was one youngster which kept running some distance ahead of its parent, and finally hid in the grass, while the parent went in another direction. On the 20th I saw two youngsters at the same pond, whether the same or a different brood I of course cannot say.

*Selasphorus rufus*. RUFOUS HUMMINGBIRD.—As we were examining some beaver work by Slate River on the morning of July 25, near Crested Butte, a Hummingbird perched on a branch close by, facing us, showing its gorgeous throat and chin. I thought I could see a little rufous even as the bird faced me, and when it flew and turned its back I saw the characteristic rufous back of this species. This is my second record for the region, and the date suggests a possible breeder.

*Carpodacus cassini*. CASSIN'S FINCH.—Cassin's Finches were seen at Crested Butte, at Lake Brennan, near Irwin (10,000) feet, and at a beaver colony near Anthracite Creek.

*Passerculus sandwichensis alaudinus*. WESTERN SAVANNAH SPARROW.—I saw Savannah Sparrows among the willows along Slate River, July 12. A new record for the region.

*Melospiza melodia montana*. MOUNTAIN SONG SPARROW.—Song Sparrows seemed quite common along Slate River. There is a thick growth of willows here and long grass about the various sloughs and open places which may be attractive to these birds.

*Melospiza lincolni lincolni*. LINCOLN'S SPARROW.—Lincoln's Sparrows seemed to be rather common along Slate River, and one was seen at Lake Brennan, Irwin.

*Iridoprocne bicolor*. TREE SWALLOW.—I was quite surprised to find

that some Swallows hawking about some beaver ponds near Anthracite Creek were Tree Swallows and not Violet-greens, which are very common in the region, and which were seen at the same time.

*Dendroica aestiva aestiva*. YELLOW WARBLER.—Yellow Warblers were very common among the willows along Slate River in July.

*Geothlypis trichas occidentalis*. WESTERN YELLOW-THROAT.—A Yellow-throat was seen July 15 at Lake Brennan. This is a new record for the region.

*Hylocichla guttata auduboni*. AUDUBON'S HERMIT THRUSH.—I saw a bird of this species feeding near some beaver ponds on Coal Creek about five miles west of Crested Butte.—EDWARD R. WARREN, 1511 Wood Avenue, Colorado Springs, Colo.

**Notes on Birds of Ft. Collins, Colorado.**—In our many trips afield during the past year or so, we have come upon a few birds of rare occurrence in the Fort Collins region, Colorado. Both of us have had considerable experience in the field in various sections of the United States. Our sight observations here recorded were made with 8 x 10 x 12 binoculars, the subjects being either close enough for identification without glasses or within easy range for the glasses. The Double-crested Cormorant was under observation for twenty minutes; all the others for much longer periods of time. All birds were observed in the swamps and lakes eight to twelve miles north, east, and southeast of Fort Collins except the Northern Blue Jay, which visited our neighborhood in the city of Fort Collins.

*Aechmophorus occidentalis*. WESTERN GREBE.—One individual May 10, 1927, and several all through July and August to date, 1927, by Gordon.

*Phalacrocorax auritus auritus*. DOUBLE-CRESTED CORMORANT.—One individual May 18, 1927, associated with Canvas-backs and Pintails. Gordon.

*Pelecanus erythrorhynchos*. AMERICAN WHITE PELICAN.—One individual observed by Langdon, July 4 and 15, 1927, and by Gordon, July 5 and 10, 1927.

*Chen hyperboreus hyperboreus*. LESSER SNOW GOOSE.—One individual April 25, 1927. Subspecies determined by geographic range. Gordon.

*Plegadis guarauna*. WHITE-FACED GLOSSY IBIS.—One individual May 11, 1927, by Gordon at less than one hundred and fifty feet.

*Casmerodius egretta*. EGRET.—One individual companioned by a Great Blue Heron, June 20 and 22, 1926. Langdon.

*Egretta candidissima*. SNOWY EGRET.—One individual April 27 and 28, 1927; two individuals together April 29, 1927; three individuals together May 2, 1927; and one individual May 6 and 13, 1927; by Langdon. Gordon and Langdon were together May 2, 1927. Two individuals together August 15, 1927, by Gordon. On one occasion this bird was observed on a ditch bank from a distance of not more than sixty feet, every detail being distinctly seen.

*Himantopus mexicanus*. BLACK-NECKED STILT.—One individual September 2, 1926, two individuals together May 29, 1927, by Langdon. One individual May 10 to 17 inclusive, 1927, observed daily by Gordon. On May 17, while Gordon was photographing Avocets, the Stilt came to within forty feet of his blind.

*Limosa fedoa*. MARBLED GODWIT.—May 2, 1927, Gordon and Langdon together, counted seventy-three. May 6 and 15, 1927, six and forty-three respectively were observed and counted by Langdon.

*Squatarola squatarola*. BLACK-BELLIED PLOVER.—One individual May 6, 1927; three individuals May 7, 1927; four individuals May 10, 1927; by Langdon. Four individuals May 12, 1927, and three individuals May 18, 1927, by Gordon.

*Cyanocitta cristata cristata*. BLUE JAY.—One individual January 8, 1927, by Langdon and Gordon; one individual May 18, 1927, by Langdon. On January 8, the Jay was under observation for exactly thirty minutes. He was in the company of a few Long-crested Jays.—KENNETH GORDON and ROY M. LANGDON, Ft. Collins, Colorado.

**Cases where Birds become Harmful, and Insects Useful, Factors in Economic Problems.**—The reflective biologist is aware of the great complexity of the interrelationships of animals and plants, and of their almost endless ramifications. It must always be borne in mind that we usually are able to attain only a rough-and-ready sort of justice in our investigations of such problems, and that new information may demand at any time a general recasting of our views, with consequent alteration in policies.

Instances in point come up most forcibly in connection with organisms introduced into new environments, where at first, at least, there is no 'balance of nature,' so far as the newcomers are concerned. Often as we know to our regret they run riot. The Lantana introduced in Hawaii was aided in its terrific spread by birds; then insect enemies of the plant were introduced which for the most part prevent it from seeding and the pest is subsiding.<sup>1</sup>

The prickly pear escaping in Australia rapidly became a national problem. The seeds were carried far and wide by birds and there was demand even for the extermination of the Emu as the most effective of these disseminators. Fortunately this proposal did not prevail, for even had the Emu been removed the prickly pear would have been kept going by numerous other agents of distribution. The effective step that was taken, however, was the introduction of cactus feeding insects, and one of them "entirely destroyed some thousands of acres of one species of prickly pear, *Opuntia monacantha*, but was quite unable to feed upon the allied pest pear, *Opuntia inermis*."<sup>2</sup> Other cactus insects have been imported and the whole problem seems to be in a fair way of solution.

<sup>1</sup> See 'The Auk,' 42, No. 1, Jan. 1925, p. 160.

<sup>2</sup> Tillyard, R. J., 'Nature,' Feb. 12, 1927, pp. 242-243.



In New Zealand an introduced blackberry threatens to occupy the whole land, and birds, particularly the European Blackbird, carry the seeds everywhere. The only remedy seems the utilization of insects that will feed upon the *Rubus* and not upon other things of value. This is possible as shown in the case of the cactus due to the highly differential feeding habits of certain insects.

Now in the case of the *Lantana*, the prickly pear, and the *Rubus* mentioned, birds are undoubtedly on the wrong side of the equation, and certain insects wholly on the right. These insects are beneficial and birds eating them would be injurious in proportion to their indulgence in the practice. We have growing up at home similar cases, as birds disseminate barberries, alternate hosts for wheat rust, and gooseberries and currants, with the same relation to white pine blister rust. Much money is being spent in campaigns to eradicate these plants and from the standpoint of the eradicators the birds concerned are enemies.

Ornithologists and bird lovers should realize these facts and be prepared to cooperate in reasonable adjustments that may be demanded in certain cases. The birds of course have not changed their ways, they are carrying on as usual for their own ends, a process which ordinarily results chiefly in benefit to man. It is not their waywardness but ours that has turned biotic relationships topsy-turvy, and in some cases put the birds in the wrong, while previously for the same activities, they have been in the right. Nevertheless man the disturber assumes the right, as conditions change, to make new judgments and take new measures. Ornithologists while conceding what may be just and necessary for the common good can resist ill-considered proposals for aggressive action against birds especially in cases in which matters clearly can not thus be improved.—W. L. McATEE, U. S. Biological Survey, Washington, D. C.



# RECENT LITERATURE.

**Saunders' 'Manual of British Birds.'** A third edition of this classic work<sup>1</sup> has just been published under the able editorship of Dr. W. Eagle Clarke who has brought it strictly up to date, adding such species and races as have occurred within the limits of the work since the last edition, and such additional information on distribution and habits as has been recorded.

The original edition, published in 1885, was conceived by the late Howard Saunders who had just completed editing the fourth edition of Yarrell's 'British Birds' and who realized the desirability of condensing the information contained in that work into a single volume, and in that manner make it available to a much larger number of students. The 'Manual' is thus as it were a lineal descendant of Yarrell's famous treatise. Many of the original Yarrell line cuts have been preserved though some of the birds have been redrawn by Lodge and half-tone cuts of additional species have been made from drawings by Grönvold.

The life histories are remarkably full when we consider that not more than two pages are allotted to a species, and that descriptions, measurements and exact records of rare occurrences are included. After the English name is given, in the heading, the modern trinomial name and a satisfactory binomial for those who do not desire to use trinomials, and finally in heavy type the character of the birds occurrence: "A Summer Visitant," "An Accidental Visitant," etc.

Of course the many technical details and full description of seasonal plumages so admirably covered in Witherby's modern 'Handbook' are not attempted in this work but it furnishes all the information that the average British bird lover or visiting ornithologist would desire and preserves the historic touch by perpetuating the names of Yarrell and Saunders so closely identified with the study of British birds.—W. S.

**A British Pocket Bird Book.** The author, Mr. Edmund Sandars, explains the object of this little volume<sup>2</sup> in the same clear and terse fashion in which he presents his subject, viz.: "The book was made for myself and is published in the belief that others may want what I wanted, namely, first, a book really small enough to carry in the pocket, with a text in clear type, but condensed to the utmost; secondly, drawings on

<sup>1</sup> Manual of British Birds. By Howard Saunders. Third Edition revised and enlarged by William Eagle Clarke, I. S. O., LL. D., with 405 figures of species. Gurney and Jackson. London: 33 Paternoster Row, E. C. Edinburgh: Tweeddale Court, 1927, pp. i-viii + 1-834. Price 30 shillings net.

<sup>2</sup> A Bird Book for the Pocket. Treating of all the regular British species with coloured plates to scale and an illustrated chapter on eggs. By Edmund Sandars. Oxford University Press. London: Humphrey Milford. 1927, pp. i-xix + 1-246. Price \$3.00 [American Branch, Oxford Press, New York, N. Y.].

the page facing the text and accurate enough in color, form and size to avoid the need for long descriptions; and thirdly, all the birds, for better comparison, shewn in more or less the same position."

He has succeeded admirably in the rather difficult task that he set himself, and manages to include notes on distribution, nest, song, food, plumages, flight, gait and manners in the page or half page devoted to each species. A novel simplification in the scientific names is the use of square and cube signs where a name is repeated or tripled as for instance *Troglodytes*<sup>3</sup> in place of *Troglodytes troglodytes troglodytes* for the Wren. The colored figures are made by a new process, printed on the ordinary text paper, and, while somewhat vivid in certain cases, give a sufficiently accurate idea of the coloration to make descriptions unnecessary. The drawings are often crude but the author's plan is to present a "map" of the bird rather than a work of art.

These pocket keys are of the greatest value in helping the beginner to a knowledge of birds and this is one of the best that we have seen. Reed's 'Bird Guides' for American birds have filled the same field in this country but Mr. Sanders has given the matter more thought and has included a greater amount of data in his text.—W. S.

**Fifty Winter Birds of the Northeastern United States.** Colored pictures of our birds are always a desideratum. Fifty years ago it was possible to purchase such pictures of British birds published, as we recall it, by Marcus Ward Co., of London. Many a boy in those days longed for a similar set of cards of our native birds, a want that at a much later day was met in part by the colored pictures of stuffed birds published under the title "Birds," by the Nature Publication Co. of Chicago, and by small cards distributed as cigarette advertisements, while still later came the admirable leaflets of the National Association of Audubon Societies.

Now this Society has issued a set of fifty cards<sup>1</sup> exactly on the plan of the Marcus Ward cards but much superior, the pictures being reproductions of paintings by Allan Brooks with a short account of the habits and distribution of each species on the reverse side of the card.

The set covers the winter birds of the northeastern states and the species selected are in the main excellent, although the Mockingbird and Red-bellied Woodpecker and perhaps the Cardinal, Carolina Wren and Tufted Tit, belong rather to the country south of the "Northeastern states," though it all depends upon where one draws the line; while the Siskin, Dove and Marsh Hawk might well have been included. The only serious criticism that can well be made is the inclusion of the Goldfinch in full summer plumage as a winter resident, with no mention of the somber garb that it assumes at this season of the year.

<sup>1</sup> 50 Winter Birds of the Northeastern United States from Color Drawings by Allan Brooks. Published by the National Association of Audubon Societies. 1974 Broadway, New York City. Sold in Sets. Price \$1.00.

These cards will prove of the utmost educational value and will interest children throughout the country and turn their attention more firmly to bird study and protection. We are glad to learn that sets covering the early and late spring migrants are in preparation and trust that others on the summer residents and on the birds of the South and West will follow. Some cards will of necessity appear in two or more sets and some readjustments on the lines above suggested could then be made. The Society is to be congratulated upon this admirable publication.—W. S.

**Hales' 'Prairie Birds.'** This is another of the popular bird books designed to help the beginner, the teacher, and the amateur student to identify their birds, and is especially designed to cover the birds of the interior prairie country, as the author considers that the student is confused by the inclusion of species which do not occur in his district.

The little volume<sup>1</sup> will, we feel sure, fulfill its object as it presents satisfactory descriptions and brief sketches of the habits of the birds of the Middle West while the numerous cuts from 'Citizen Bird,' 'The Osprey,' and other works, will aid in identification, although the few color plates are very poorly printed. We regret that the author did not include more color keys such as has been presented for the adult males of the Finches. The Shore-birds and Warblers, especially, might with advantage have received similar treatment.

Prof. Hales apparently does not believe in trinomials and has cut off the third name in most cases although curiously enough he has retained it in cases where European subspecies are involved as in *Certhia familiaris americana* and *Pica pica hudsonia*. Notes are to be found throughout the text referring to the occurrence of various birds in Manitoba and Alberta which give to the work a local flavor.—W. S.

**Metcalf's 'Wandering Among Forgotten Isles.'** This delightful narrative<sup>2</sup> describes a cruise by the author and some congenial friends through the waters of the western Mediterranean Sea and to the Canaries, Madeira and the Salvages. Incidentally many marine specimens were collected for the American Museum of Natural History—fish, seals, petrels, etc., and a chapter by Dr. Robert Cushman Murphy, who was one of the party, summarizes the scientific results of the cruise.

To the ornithologist the most interesting chapter is one describing the rearing of a young Petrel (*Oestralata mollis feae*) which was fed by one of the ladies on raw fish which she masticated and fed to the bird by allowing it to insert its slender bill between her lips. In this way the bird was kept

<sup>1</sup> *Prairie Birds*. By B. J. Hales, B.A., LL.B., Principal Normal School, Brandon, Manitoba. Toronto: The Macmillan Company of Canada Limited, at St. Martin's House. 1927, pp. 1-xv + 1-334.

<sup>2</sup> *Wandering Among Forgotten Isles*. By Jesse Metcalf. With a Chapter on the Scientific Results of the Cruise by Robert Cushman Murphy, D.Sc. Illustrated. J. H. Sears & Company, Inc., Publishers. New York [1927], pp. 1-306. Price \$3.50.

in a healthy condition for four months being taken home to New York by way of France and England. This is we believe the first instance of a Petrel being kept alive in captivity for any length of time, not to mention a young bird going through the serious operation of feather growth. The necessary addition at times of cod-liver oil to the food that was masticated is all the more tribute to the patience and determination of the foster mother!

The book is attractively printed and well illustrated with half-tones from photographs.—W. S.

**Lönnberg on the Origin of the North American Fauna.** This paper<sup>1</sup> read at the International Ornithological Congress at Copenhagen discusses the geological history of America and the probable incursions of birds that have taken place. The author's general conclusions are that the North American avifauna may be divided into three groups (1) Endemic birds, (2) Descendents of Old World Immigrants, and (3) Descendants of South American Immigrants. He regards the Wren-tit the Surf bird, the Mockers, etc., the Wood Warblers, Vireos, Waxwings, Wrens, and Icteridae as more or less certainly of North American origin and explains that the effects of the ice age in driving endemic forms south has displaced many groups so as to obscure their geographic origin.

As South American incursions he mentions the Tyrant Flycatchers, New World Vultures, Tanagers, Goatsuckers, Swifts, Hummingbirds, and probably the Cracidae. The Parrots he regards as of Australian origin and considers that they reached South America at a very early period in the same way as did the marsupial mammals, and the Hylidae and Cystignathidae among the batrachians.

Papers of this kind are extremely interesting for those who enjoy theorizing and only by such means, coupled with facts that are constantly being brought out regarding relationship, the presence of fossil forms, etc., can we ultimately arrive at a clear idea of the origin of faunas. Prof. Lönnberg has certainly presented some food for thought and his paper will be sure to arouse the interest of younger students who are just beginning to realize the importance of geographical distribution.—W. S.

**Aves of Kükenthal and Krumbach's 'Handbuch der Zoologie.'** The bird volume of this important work<sup>2</sup> is contributed by Dr. Erwin Stresemann the first part appearing in the spring of 1927. It covers the definition and characteristics of birds and their morphology, treating of

<sup>1</sup> Some Speculations on the Origin of the North American Fauna. By Einar Lönnberg. Kungl. Svenska Vetensk. Acad. Handlingar. Third Series. Band No. 6. 1927, pp. 1-24.

<sup>2</sup> Handbuch der Zoologie. Gegründet von Dr. Willy Kükenthal, herausgegeben von Dr. Thilo Krumbach. Siebenter Band. Sauropsida: Allgemeines, Reptilia. Aves. Zweite Hälfte. Erste Lieferung, Bogen 1 bis 7. Ausgegeben am 22 April, 1927. Aves von Erwin Stresemann. Pp. 1-112. Berlin and Leipzig 1927. Walter de Gruyter & Co.

the skin, bill, claws, feathers, skeleton, muscles and nervous system. The treatment is exhaustive and thoroughly up to date including references to the work of many American investigators, a feature too often omitted in European works of this kind, while there is a welcome array of figures in line and half-tone taken from various modern works.

The section relating to feathers is particularly interesting, considering their microscopic structure and pigmentation, the mechanical arrangement of the barbs and barbules, the nature of feather growth and of abrasion, the arrangement of feather tracts and of the flight feathers and their coverts, as well as a discussion of molt and the sequence of plumages.

The nomenclature of the skeleton and of the muscles is given in great detail and further elucidated by the excellent figures.

The structure of birds is attracting the attention of more and more ornithologists especially in connection with working out the phylogeny of the class and he who attempts such work must necessarily have anatomical and morphological training. As a guide for this purpose we know of no better work than Dr. Stresemann's admirable volume and with such a foundation as this work will provide important results should follow.

We wish the author every facility in the completion of his work and sincerely hope that an English edition may in the near future appear.  
—W. S.

**Aves for 1926.** Mr. W. L. Slater has once more placed all ornithologists under obligation to him by his careful compilation of the ornithological titles for the *Zoological Record*<sup>1</sup> for 1926. They number this year 1089 and are arranged in the usual way by author and then indexed by subject, country and group, making reference easy and satisfactory.

Every year we emphasize the importance of ornithologists securing this invaluable index to the publications in their field, and of institutions rendering such financial aid as they can to the publication of the '*Zoological Record*' of which it forms a part. Too much credit cannot be given to the Zoological Society of London for assuming the major part of the expense of publishing this work which for 53 years has been mainly responsible for keeping systematic zoology from hopeless chaos.—W. S.

**Sushkin on the Classification of the Weaver-Birds.** Dr. Sushkin has presented a vast amount of information on the anatomy and classification of the Ploceidae in this paper.<sup>2</sup> He discusses the structure of the bill, the tongue, and the body skeleton, especially the palatal surface of the skull, the pattern of which he regards as a very valuable phylogenetic character. He confirms most of the suggestions recently made by Dr.

<sup>1</sup> *Zoological Record*, Vol. LXIII, 1926. Aves. By W. L. Slater, M.A. August, 1927. pp. 1-77. Zool. Soc. London Regents Park. London, N.W. 8. Price 7 shillings 6 pence.

<sup>2</sup> On the Anatomy and Classification of the Weaver-Birds. By Peter P. Sushkin. Bull. Amer. Mus. Nat. Hist., LVII, Art. I, pp. 1-32, October 24, 1927.



J. P. Chapin as to the relation of certain of the Weavers, in his paper on the same subject (Bull. Amer. Mus. Nat. Hist., XXXVII, p. 252).

He pays especial attention to the genus *Passer* and its allies which he still contends are not Finches but Weaver-Birds, and he would group *Passer*, *Petronia*, *Chionospina* (= *Montifringilla*) and *Pyrgilauda*, as a well defined subfamily of the Ploceidae, "Passerinae," with the probability that *Gymnoris*, *Onychostruthus* and *Sorella* belong with them. They have, so far as examined, a very characteristic relief of the palatal surface of the horny bill, a complete post-juvenile molt, and a domed nest with entrance on the side.

Dr. Sushkin's classification would arrange the subfamilies as follows, beginning with the lowest: Bubalornithinae, Ploceipasserinae, Passerinae, Sporopipinae, Ploceinae and Estrildinae.

The author also discusses the curious phalloid organ located near the vent in *Bubalornis* which he regards as in some way an auxilliary to copulation.—W. S.

**Murphy on *Puffinus assimilis*.** Dr. Murphy presents a careful study<sup>1</sup> of some 300 specimens of Petrels of the *Puffinus assimilis-therminieri* group. He confirms Mathews' opinion that these two forms are specifically distinct and recognizes five subspecies of the former and eight of the latter. *P. a. kermadecensis* (p. 3) from Herald Island, Kermadec Group, N. Z., and *P. l. polynesiae* (p. 8) from Tahiti, Society Islands, are described as new.—W. S.

**Friedmann on Argentine and African Birds.** Dr. Friedmann spent some six months from August 11, 1923, to March 17, 1924, in Argentina primarily to study the parasitic habits of the Cowbirds (*Molothrus*), but incidentally a number of other species were observed and collected and the present paper<sup>2</sup> is a report on his collection, now in the Museum of Comparative Zoology, and upon his field observations.

Notes are presented on 169 species relating mainly to habits and distribution, with a list of specimens secured and occasional descriptions of color and measurements. The pamphlet is a valuable contribution to our knowledge of Argentine birds giving us intimate pictures of many of the species in their favorite haunts. In this paper and those by Dr. Wetmore and Mr. Peters, American ornithologists have contributed not a little to Argentine ornithology.

Dr. Friedmann has also recently published descriptions of some new birds secured by him in Africa. In one paper<sup>3</sup> he names *Turdoides melan-*

<sup>1</sup> On Certain Forms of *Puffinus assimilis* and Its Allies. By Robert Cushman Murphy. Amer. Museum Novitates, No. 276, September 8, 1927, pp. 1-15.

<sup>2</sup> Notes on Some Argentine Birds. By Herbert Friedmann. Bull. Mus. Comp. Zool., Vol. LXVIII, No. 4, September, 1927, pp. 139-236.

<sup>3</sup> A New Babbler from the Belgian Congo. By Herbert Friedmann. Proc. N. E. Zool. Club, Vol. X, p. 11, October 20, 1927.



*ops ater* (p. 11) Belgian Congo, and in another<sup>1</sup> *Turdinus spadix* (p. 3) *Opifex* (gen. nov.) *altus* (p. 4), *Malaconotus alius* (p. 5), *Hypargos nitidula virens* (p. 6), *Spermospiza ruficapilla cana* (p. 7) all from Tanganyika Territory, the first three from the Uluguru Mts. and the last two from the Usambara range.—W. S.

**Recent Papers by Peters, Bangs and Kennard.** Mr. James Lee Peters has recently described several new birds. In one paper<sup>2</sup> he names *Aratinga wagleri transilis* (p. 111), from northern Venezuela, *Coccyzus minor teres* (p. 112) from the Dominican Republic, *Penthestes sclateri eidos* (p. 113), from the Chiricauha Mts., Arizona, and in another<sup>3</sup> *Manacus cerritus*, from Almirante, Panama.

In conjunction with Frederic H. Kennard he has also named<sup>4</sup> *Lanio leucothorax ictus* (p. 1) and *Psilorhinus mexicanus captus* (p. 2) from north-western Panama.

Mr. Outram Bangs and Mr. Peters have published a list<sup>5</sup> of birds from Maratua Island off the coast of Borneo, based on a collection made by Dr. Eric Mjöberg and presented to the Museum of Comparative Zoology by Dr. Thomas Barbour. Sixteen species are listed and seven described as new: *Megapodius cumingii tolutilis* (p. 235), *Tanygnathus lucionensis horrisonus* (p. 236), *Hypothymis aerea* (p. 237), *Microtarsus hodiernus* (p. 238), *Kittacincla barbouri*, *Anthreptes malacensis mjobergi* (p. 240), *Aplonis panayensis suggrandis* (p. 241).—W. S.

**Wilder and Hubbard on Chinese Birds.** We have received separates of a list<sup>6</sup> of the birds of Chihli Province, China, (1924), with notes and a supplement<sup>7</sup> published two years later by George D. Wilder and H. W. Hubbard.

They present a list of 473 species makes a valuable contribution to Chinese ornithology containing as it does references to all previous lists dealing with the birds of the province.—W. S.

**Griscom on Panama Birds.**—After Mr. Griscom's return from Panama in 1924, Mr. Rex R. Benson was left to carry on field work, visiting Santiago, the mountains back of Santa Fé, Cape Mala peninsula and Agua Dulce.

<sup>1</sup> New Birds from Tanganyika Territory. By Herbert Friedmann. Proc. N. E. Zool. Club., Vol. XX, pp. 3-7, September 7, 1927.

<sup>2</sup> Descriptions of New Birds. By James Lee Peters. Proc. New England Zool. Club, IX, pp. 111-113, June 24, 1927.

<sup>3</sup> A New Manakin from Panama. By James Lee Peters. Proc. New England Zool. Club, pp. 9-10, September 22, 1927.

<sup>4</sup> New Birds from Panama. By Frederic Hedge Kennard and James Lee Peters. Proc. New England Zool. Club, X, pp. 1-2, August 25, 1927.

<sup>5</sup> Birds from Maratua Island, off the East Coast of Borneo. By Outram Bangs and James Lee Peters. Occasional Papers of the Boston Society of Natural History, Vol. 5, pp. 235-242. June 13, 1927.

<sup>6</sup> Journal of the North China Branch of the Royal Asiatic Society, Vol. LV, 1924, pp. 156-239.

<sup>7</sup> Ibid., Vol. LVII, 1926, pp. 184-194.

In connection with studying the Panama collections which number upwards of 3000 skins and which have been presented to the American Museum of Natural History by Mr. Sanford Barnes and Mr. Griscom, 21 new forms have been found which are described by Mr. Griscom in a recent paper.<sup>1</sup> In another paper<sup>2</sup> he describes an ornithological reconnaissance in eastern Panama in 1927 accompanied by Mrs. Griscom, Maunsell S. Crosby and Rex R. Benson. The party visited the Pearl Islands and went up the Sambú River from the Gulf of San Miguel and through the country back of Cape Garachiné. A list of 41 species is presented of which *Saucerottia edwardi margaritarum* (p. 4) is described as new from the Pearl Islands and *S. e. crosbyi* (p. 5), *Pachysylvia minor darienensis* (p. 7), *Compsothlypis pitiayumi nana* (p. 8) and *Atelodacnis leucogenys panamensis* (p. 9) all from Cape Garachiné.—W. S.

**Kalmbach on the Economic Value of the Magpie.** In this exhaustive report<sup>3</sup> Mr. Kalmbach sums up the economic status of the Magpie on the basis of stomach contents as well as upon data obtained from field studies of the bird in life.

Its food analysis discloses many alfalfa weevils, caterpillars, and grasshoppers which make up 36 per cent of the whole, as well as some rodents and much carrion. On the other hand the Magpies destroy some poultry, wild birds and their eggs, but based on stomach contents alone the verdict would be that the bird is one of the most beneficial of the Corvidae with its shortcomings similar to those of the Crow but its insectivorous habits more pronounced.

Unfortunately it is locally a serious menace to live stock attacking those with open sores or unhealed brands, and pecking at them until they die; sheep, pigs, cows and even horses, having been victims of the attacks. Once a ranchman witnesses one of these attacks it is hard to convince him that the Magpie has any good qualities, for, as in the case of Hawks, no one pays any attention to the birds when doing good.

The Magpies also interfere with the operations of poisoning Coyotes and other "predatory mammals" by eating the bait but they pay dearly for their "offence" since in one Coyote campaign in Washington 5000 Magpies were destroyed.

Mr. Kalmbach regards the Magpie's offences as local in character and considers that immediate and summary action by the ranchers will check their predatory habits, which may really be originally indulged in by only a few individuals. "Exterpation of the species over large areas is not

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<sup>1</sup> Undescribed or Little-known Birds from Panama. By Ludlow Griscom. Amer. Mus. Novitates, No. 280, September 10, 1927, pp. 1-19.

<sup>2</sup> An Ornithological Reconnaissance in Eastern Panama in 1927. By Ludlow Griscom. Amer. Mus. Novitates, No. 282, September 12, 1927, pp. 1-10.

<sup>3</sup> The Magpie in Relation to Agriculture. By E. R. Kalmbach. Technical Bulletin, U. S. Dept. Agriculture, October, 1927, pp. 1-30. Price 10 cents (U. S. Government Printing Office, Washington, D. C.).

called for, and before local campaigns are inaugurated careful consideration should be given to their necessity and scope."

As usual it seems to be man's activities that have encouraged and made possible the worst of the Magpie's bad habits and in spite of Mr. Kalmbach's impartial investigation the bird we fear will have a hard time of it and gradually become scarce just as the Hawks are disappearing in the eastern States in spite of all expert testimony.—W. S.

**Lewis on the European Starling in Ontario.** The first part of this report<sup>1</sup> traces the advance of the Starling in Canada and in Ontario, from the first occurrence in 1915 to the time that it became well established.

The economic part, in its essential features, confirms the reports on the bird's status in the United States and many references are made to the reports of Forbush and of Kalmbach and Gabrielson. Mr. Lewis finds that the Starling devours a large number of injurious insects while as yet no serious complaints have been made against it by fruit growers. In its relation to other birds there are several reports of its dispossessing Flickers, Bluebirds, etc., of their nesting places. Evidently as yet the bird is not sufficiently numerous to be a nuisance, just as is the case in many parts of the United States.

In England where for many years it was regarded as a beneficial species or at least neutral in its economic status, O. V. Aplin called attention as long ago as 1889 to its extraordinary increase in certain sections and predicted that it might change its manner of living and attack crops and would then undoubtedly become a serious nuisance. He also called attention to its increasing attacks on other birds. In 1921 Dr. W. E. Collinge shows that this prophecy had come true, stating that a gradual change of opinion regarding the Starling had taken place and that its alarming increase throughout the country "threatens the cereal and fruit crops and the magnitude of the plague is now fully realized." All of these facts Mr. Lewis has set forth at length and calls attention to the quality of the bird for food and the good sport that is afforded in hunting such wary game. Should it threaten to become a nuisance he thinks it should at once be regarded as a game bird with an unlimited season.

We cannot too strongly recommend the same course in the United States and in many centers of population the time would seem to have arrived. In Philadelphia and its suburbs the Starlings devour all of the food supply formerly available for native winter birds so that the latter have in certain sections largely disappeared.

Mr. Lewis's paper is an excellent, unbiased review of the Starling's status and both Canada and the United States should awaken to the danger that confronts us and take action to hold the bird in check *before* it becomes too numerous. If the ammunition dealers wish to increase

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<sup>1</sup> A Distributional and Economic Study of the European Starling in Ontario. By Harrison F. Lewis. University of Toronto Studies Biological Series, No. 30. Published by the Librarian, 1927, pp. 1-57.

their market why not advocate Starling shoots instead of clamoring for the extermination of the Crow, as they did a few years ago.—W. S.

**Birds of Lewis and Clark in North Dakota.** In this little brochure<sup>1</sup> the authors, Messrs. Russell Reid and Clell G. Gannon present a list of the birds and mammals referred to in the journals of the Lewis and Clark Expedition while it was passing through the present state of North Dakota, from October 14, 1804, to April 27, 1805, and August 3-20, 1806, on the return trip. Comments are added from the editions of the Journals by Coues and Thwaites with additional notes by the authors themselves. Some 29 birds and 24 mammals are listed with the authors' identifications in terms of the modern nomenclature. Following the list is a series of extracts from the Journals giving additional data on some of the occurrences and there is a half-tone of Bodmer's painting "A Bear Hunt on the Missouri River."

The pamphlet is a careful historical compilation such as will have to be made for the various western states through which these early expeditions passed when the explorers had interest enough to mention any of the animals that they encountered.—W. S.

**Barro Colorado Island Biological Station.** In the Smithsonian Report for 1926, Dr. A. O. Gross has published an excellent account<sup>2</sup> of the Barro Colorado Biological Station from the standpoint of the ornithologist. Dr. Gross spent a summer at the station in association with Mr. Josselyn Van Tyne and gives us an interesting resume of his bird studies in the Canal Zone. Especially valuable are the intimate accounts of nesting and behaviour of the tropical Flycatcher, *Myiobius atricaudus*, and of the Ant birds, *Dysithamnus puncticeps*, *Myrmeciza exsul* and *Hylophylax naevioides*.

The facilities of this station are making it possible to gain the same intimate knowledge of the life histories of tropical birds that has for many years been recorded for the birds of the north temperate zone. Something which Beebe had already demonstrated for Kartabo, British Guiana. A number of excellent half-tones illustrate the paper.—W. S.

**La Touche's 'Handbook of the Birds of Eastern China.'** The fourth part of this important work<sup>3</sup> appeared during the past summer covering the families Ploceidae, Fringillidae, Bombycillidae, and Hirundinidae. The treatment follows exactly that of the previous parts and several half-

<sup>1</sup> Birds and Mammals Observed by Lewis and Clark in North Dakota. By Russell Reid and Clell G. Gannon. Printed by Holt Printing Company. Grand Forks, N. D., 1927, pp. 1-24.

<sup>2</sup> Barro Colorado Island Biological Station. By Alfred O. Gross, Ph.D. Smithsonian Report for 1926, pp. 327-342. U. S. Government Printing Office, Washington, 1927.

<sup>3</sup> A Handbook of the Birds of Eastern China. By J. D. LaTouche. Part IV, August, 1927. Taylor and Francis, Red Lion Court, Fleet Street, London, E.C., 4, pp. 293-398, pls. X-XIII. Price 7 shillings 6 pence net.

tone plates of scenery, etc. and a revised sketch map of China, to replace the one previously issued, are included.—W. S.

**Hartert on a Trip to Morocco.** In a recent paper<sup>1</sup> Dr. Hartert describes another ornithological journey to Morocco undertaken in 1925. He travelled over much of the country north of the Great Atlas, going from Rabat to Marrakesh and then northward to Asselda and to the vicinity of Meknès and Azrou. The itinerary is given in some detail with birds seen en route and at the several stopping places. The list enumerates 71 species upon which more detailed notes are presented. Dr. Hartert has added another interesting account of Morocco and its birds to the many that he has already published.—W. S.

**Jones' 'Key to Nests and Eggs.'** This ingenious little book<sup>2</sup> by Dr. Howard Jones aims to identify by means of an artificial key the eggs of the common birds of Ohio. The key is first divided into plain eggs and those that are marked and each of these groups is again divided into (1) eggs with a white ground color; (2) those with the background blue or bluish, green or greenish; and (3) those with some other tint for background. Then we have the different eggs in each section described in columns as to size, number, color, and characteristics of nest, the arrangement being according to size in each group, beginning with the largest.

Only 126 species are enumerated and as most of the Warblers breed north of the range of the work that difficult group did not have to be considered, except in the case of one of two species. Dr. Jones points out the fact that his original key published in 'Nests and Eggs of the Birds of Ohio' (1886) and Mr. H. D. Minot's key in 'Land Birds and Game Birds of New England' (1877) are apparently the only two egg keys that have been published.

The present booklet based on the 1886 key is attractively gotten up with blank leaves bound in for notes and will serve an excellent purpose in aiding field students of birds and bird nests, not only in Ohio but in other nearby states.

Dr. Jones has also published a paper entitled "Birds of My Boyhood,"<sup>3</sup> which was read before the Wilson Ornithological Society some years ago and which presents notes on Ohio birds made during 1858-1870.—W. S.

**McGregor's Accounts of Philippine Birds.**—Mr. Richard C. McGregor of the Bureau of Science in Manila has been doing much to popularize the study of birds in the Philippines. His 'Manual' and 'Philippine Birds for Boys and Girls' have already been noticed in these columns

<sup>1</sup> On Another Ornithological Journey to Morocco in 1925. Mem. Soc. Sci. Nat. du Maroc, No. XVI, December 31, 1926 [May, 1927], pp. 1-24.

<sup>2</sup> A Key for the Identification of the Nests and Eggs of Our Common Birds. By Howard Jones, A.M., M.D. Circleville, Ohio, 1927, pp. 1-44.

<sup>3</sup> Birds of My Boyhood. Read before the Wilson Ornithological Society, 1915, pp. 1-23. By Howard Jones, A.B., A.M., M.D. Circleville, Ohio.



and now for the past two years he has been publishing popular accounts of the birds of the islands in the 'Philippine Educational Magazine' a monthly published in English at Manila.

The birds are taken up by families with some account of the habits and range of the more important species and half-tone or line illustrations of many of them, with outline drawings of their structural characters. The series began with the issue for May 1926 and is now nearly completed, covering a large part of the 750 species composing the Philippine avifauna.

Mr. McGregor is to be congratulated upon this excellent series of articles which cannot but aid in furthering a knowledge of birds and the importance of their protection which is especially important in the Philippines where, up to the time of the American occupation, no steps toward conservation had been taken.—W. S.

**Coleman's 'Manual for Small Museums.'** The museum is an essential to the advancement of any branch of science or art, and anything that tends to make museums more effective and prosperous has a direct interest for a large number of people. Mr. Coleman the author of the 'Manual for Small Museums'<sup>1</sup> has had a long experience with museum work as secretary of the American Association of Museums and is thus particularly well fitted for the preparation of a work such as he has brought out. He tells us that the volume is intended for the use of those who set about to found a museum or to build up a museum now existing and although in his title he limits his field to the "small museum" we feel that those who are engaged in large museums will do well to read the Manual carefully, whether they be trustees, directors or staff members, as it contains much information and suggestions pertinent to the work of all. Buildings that are wrongly constructed, faulty organization and inadequate administration have hampered or wrecked many a museum, and everyone connected with such an institution should know and realize his proper field of activity and the requirements of his position. Such information gathered from the experience of many others is contained in Mr. Coleman's volume. The book is divided into six parts: organization, administration, curatorial work, educational work, research, and building, and under each are considered a number of subordinate topics. Under organization, for example, are discussed the character and duties of the board of trustees, the director and the staff, membership, women's auxiliary and relation to other organizations; while under curatorial work are considered, accession policies, study collections, exhibits (of history, art, science), loan collections, collecting, museum records, numbering and tagging, preparation, housing, cases, installation, labelling and groups.

This will give some idea of the scope of the work and after each topic is a short bibliography of publications in which additional information may

<sup>1</sup> Manual for Small Museums. By Laurence Vall Coleman, Executive Secretary of the American Association of Museums. With 32 Plates. G. P. Putnam's Sons, New York and London. 1927, pp. i-xiv + 1-395.



be found while several appendices present a form for charter and by-laws, extracts from the laws of states supporting museums, lists of reliable manufacturers of museum equipment, etc. The volume is illustrated with thirty-two plates of museum buildings, plans, cases, groups, etc. We do not recall another work that covers the field that Mr. Coleman has selected and certainly none covers it so thoroughly.—W. S.

**The Ornithological Journals.**

**Bird-Lore.** XXIX, No. 5. September–October, 1927.

Caesar and Calpurina. By Carolyn Sheldon.—Two young Black-backed Gulls on a lake in Nova Scotia which became very tame and perfectly accustomed to association with human visitors.

A Lesson in Civic Ornithology. By Joseph Dixon.—Another account of the extraordinary gathering of Ducks at Lake Merritt in the heart of Oakland, Calif., with admirable photographs.

Bob the Redhead. By Mrs. John Franklin Kyler.—The Story of a tame Red-headed Woodpecker.

Louis Agassiz Fuertes. By Frank M. Chapman.—A most sympathetic biographical sketch which is supplemented by one on Fuertes as a teacher by Dr. A. A. Allen.

**Bird-Lore.** XXIX, No. 6. November–December, 1927.

A Citizen of the Marshes. By F. N. Wilson.—The Marsh Hawk, with photographs of the bird on its nest.

The Fox and the Fence: What is Sanctuary. By Mabel Osgood Wright.—Foxes take up their residence in a bird sanctuary and apparently do little harm. Should they be exterminated?

Outwitting the English Sparrow. By A. C. Weichman.—Cuts the tails of the birds trapped and neither they nor other Sparrows associated with them trouble the traps thereafter.

Barred Owls Nesting in Box near Washington, D. C. By W. W. Rubey.

The Migration Tables cover the Red-headed and Lewis' Woodpeckers and there is a frontispiece of the Woodcock by Allan Brooks.

The annual report of the National Association of Audubon Societies occupies most of the number and is as usual of the greatest importance and should be read by all interested in bird conservation.

**The Condor.** XXIX, No. 5. September–October, 1927.

Contribution to the Life History of the Alaska Willow Ptarmigan. By Joseph Dixon.—With many excellent photographs one of which shows the male in the act of strutting.

Old Times with the Birds: Autobiographical. By Charles Haskins Townsend.—A most interesting autobiography of a naturalist who enjoyed remarkable opportunities for travel and observation.

Strange Features in Bird Habits. By Frank A. Leach.—California Woodpeckers, Jays, Towhees and other species.

The Bird Life of San Ignacio and Pond Lagoons on the Western Coast of Lower California. By Laurence M. Huey.

The American Magpie in the Oklahoma Panhandle. By Ralph C. Tate.

**The Condor.** XXIX, No. 6. November-December, 1927.

The American Gull-billed Tern Breeding in California. By J. R. Perberton.

The California Clapper Rail, its Nesting Habits, Enemies and Habitat. By Dudley S. DeGroot.

**The Wilson Bulletin.** XXXIX, No. 3. September, 1927.

Flocking, Mating, and Nest-Building of the Prairie Horned Lark. By George M. Sutton.—In Western Pennsylvania and West Virginia, illustrated by photographs and a drawing by the author.

Notes on the Home Life of the Turkey Vulture. By Russell M. Kempton.

Autobiography of Otto Widmann.—With portrait.

Notes on Some Less Common Birds of Douglas County, Kansas. By Charles Eugene Johnson.

Notes from La Anna Pike County, Pennsylvania. By Thomas D. Burleigh.

**The Oölogist.** XLIV, No. 9. September, 1927 and No. 10. October, 1927.

(September.) Late nesting of Bald Eagle in Florida. E. R. Smith.  
Marsh Hawk nesting in Philadelphia. R. F. Miller.

Trip to Gull Island, Ontario. C. B. Lawrence.

(October.) Nesting of Florida Gallinule, at Lyndonville, N. Y. W. A. Smith.

Nesting of Raven and Prairie Falcon in Washington. C. McBee.

Winter Birds of Austin, Texas. R. H. Eanes.

Florida Red-shouldered Hawk nests on Neuces River, Texas. W. Hahn, Jr.

**The Murrelet.** [Mimeographed journal.] VIII, No. 3. September, 1927.

List of Summer Birds of Westport, Wash. E. A. Kitchin.

Birds of the Olympic Peninsula, Wash. R. H. Palmer.

A visit to Cape May Co., N. J. T. D. Bulleigh.

Nesting of the Western Robin. J. H. Bowels.

The Status of Certain Sandpipers on the Pacific coast. Allan Brooks.  
Numerous short notes.

**Bulletin of the Northeastern Bird-Banding Association.** III, No. 4. October, 1927.

Further Studies of Protocalliphora Infesting Birds. By Charles W. Johnson. The blood sucking larvae of this fly have been very destructive

to nestling Bluebirds and Tree Swallows in New England, though a parasitic chalcid keeps them in control in some places. Mr. Johnson calls attention to the greater abundance of the fly in nests built in boxes and tree holes and wonders whether the Starling is responsible for the increase. The only remedy seems to be thorough cleaning out of nest boxes.

Notes on the Prenuptial Moults of the Tree Sparrow. By Wendell P. Smith.—Moult is not restricted to the throat but occurs to a less extent on the sides of the head and seems to be completed before migration starts, though it begins on different dates in different individuals.

English Sparrow Control. By E. C. Hoffman.—Shows graphically the great difference in the number of Sparrows trapped in different months, ranging from 5–200.

Tree Swallow Habits and Behavior at Brewer, Me. By Helen J. Robinson.—A diary of several nests.

Notes on the Development of Young Common and Roseate Terns. By Charles B. Floyd.—Weights and notes on moult and activity of various marked young.

The Yellow Coloration of Downy Woodpeckers. By C. L. Whittle.—Young of the year are sometimes trapped showing a decided yellow tint to the plumage of the under parts and the same occurs occasionally in adults. It is suggested that this is always seen in fresh feathers and fades, which accounts for its absence in dry skins.

Is there a Northern Race of the Robin. By M. J. Magee.

Chewink Returns at Marthas Vineyard. By Allan Keniston.

Notes on Purple Finches. By M. J. Magee.

**Bulletin of the Eastern Bird Banding Association.** No. 3. October, 1927.

Devoted entirely to recording of returns and comment upon them.

B. S. Bowdish records a Song Sparrow that was banded in 1922 and has repeated every year since, and there are other birds with consecutive records for four years.

**The Ibis** (Twelfth series). III, No. 4. October, 1927.

Systematic Results of Birds collected at high altitudes in Katak and Sikkim (II). By Col. R. Meinertzhagen.—With plate of downy young of *Lerwa*, *Ithaginis* and *Tetraogallus*.

Notes on Birds observed at Orotava, Tenerife. By G. H. Gurney.

Birds of the Gyantse Neighbourhood, Southern Tibet. By Frank Ludlow.

A List of the Birds described by the author during the ten years from 1915–1925, with descriptions of two new forms. By Nagamichi Kuroda.—The present disposition of each is given and *Polioccephalus ruficollis kunikyonis* (p. 722) Riu Kiu islands and *Spilopelia chinensis formosa* (p. 723) Central Formosa are described as new.

Two hitherto unpublished pictures of the Mauritius Dodo. By Casey A. Wood.—With reproductions of the plates, dated 1618 and 1736 respectively.

First Nesting of the Fire-crested Wren in Britain. By H. W. Robinson.

**Bulletin of the British Ornithologists' Club.** CCCXVII. November 3, 1927.

Account of the shameful crowding of live birds shipped from West Africa to British and European dealers which the Zoological Society is taking steps to stop.

Mr. W. L. Sclater discusses the races of *Eremomela griseoflava* and comments on other Warblers, describing new forms of *Seicercus*, *Eremomela*, *Camaroptera*, *Sylvietta* and *Prinia*.

Mr. Momiyama describes new races of *Garrulus*, *Parus* and *Strix* from Japan while Dr. Sushkin discusses *Alectoris chukar* describing six new races.

Mr. Bunyard presents further notes on the Cuckoo and suggests that a "generation of Cuckoos brought up by Reed Warblers would produce in time eggs similar to theirs since undoubtedly food must play a very important part in the composition of the blood, liver and bile secretions, which in turn determine the egg coloration."

Mr. Kinnear describes a new form of *Pterocles* and Mr. Bannerman a new race of Frigate-bird from the Cape Verde Islands.

**British Birds.** XXI, No. 4. September, 1927.

Field Notes from East Suffolk. By J. K. Stanford.

On a Soaring Cormorant. By Donald Gunn.—A Cormorant was observed to soar in a low spiral until it disappeared from vision on a perfectly clear day, at a height estimated to have been at least 2300 feet.

**British Birds.** XXI, No. 5. October, 1927.

Field Notes from Lakeland. By R. H. Brown.

Breeding Habits of the Twite. By John Armitage.

**British Birds.** XXI, No. 6. November, 1927.

Traps for Bird Ringing. By Frederick C. Lincoln.—With pictures of various kinds of traps.

Nest Building by Male Lesser White-throat. By H. E. Forest.

**Avicultural Magazine.** (Fourth series.) V, Nos. 9, 10 and 11. September, October and November, 1927.

(September.) A beautiful plate of *Carpococcyx renauldi* the rare Siamese Cuckoo, with accounts of it by J. Delacour and A. Ezra also photographs of the Staeamer Duck and Sheathbill in the London Zoo.

(October.) Plate of the Roulroul with account of its breeding. By H. Whitley.

Breeding of the Bustard Quail. By H. L. Sich.

Some Bird notes from Tenerife. By J. H. Gurney.

Nesting of the Senegal Turacou. By Capt. H. S. Stokes.

(November.) Geese. By the Marquess of Tavistock and F. E. Blaauw, with two plates.

**The Oologists' Record.** VII, No. 3. September, 1927.

The Maximum Clutch of the Raven. By F. C. R. Jourdain.

The Arctic or Richardson's Skua in Shetland. By W. E. Glegg.—With excellent photographs of birds and nest.

On the Number of Eggs of the Foster Parent left by the Cuckoo. By L. R. W. Loyd.—Tabulation for various species.

**The Emu.** XXVII, Part 2. October, 1927.

Colored plate of the Grass Parrots, *Neophema bourki* and *N. pulchella*, with accounts of their history and habits. By W. MacGillivray and G. A. Heuman.

A Bird Lover in the Mallee of Northwestern Victoria. By Charles Sullivan.

Splitting—Generic and Subspecific. By F. L. Berney.—The old protest once more, against excessive genera and subspecies but no relief suggested. The author however seems to us to hit the nail on the head when he says. "At present every ornithologist must be a law unto himself. Time and the law of the survival of the fittest will show who is right."

New Species of Field-Wren. By A. G. Campbell. *Calamanthus winiam* (p. 80) Winiam, south of Nhill, Victoria.

Notes on a Collection of Birds from South and South-western Australia. By J. R. Kinghorn.

Birds from a Coastal Boat. By W. MacGillivray.—With photographs of Albatrosses and diagrams of the upper and lower surfaces of the wings in six species.

Impressions of Bird-Life Between Perth and Adelaide. By D. L. Serventry.

A Trip to the Mallee. By C. L. Lang.

Origin of the Name Podargus. By F. L. Berney.—Considers that it is based upon the French "podarge" meaning gouty and calls attention to the swollen condition of the feet in a freshly killed bird.

**Revue Francaise d'Ornithologie.** No. 220-221. August and September, 1927 (double number). [In French.]

Revision of the Tit (*Parus cristatus mitratus*). By H. deBalsac and H. Jouard.—Birds from the Alps are named *P. c. alpinus* (p. 292).

On the Relative Dimensions of the Remiges of the Harriers. By M. de la Fuye—with rejoinder by J. Rapine and further notes on *Circus pygargus* by R. d'Abadie.

Excursion to the Seven Isles [north coast of France]. By G. Olivier and Marquis de Tristan.

Some Remarks on the Serin. By J. Lasnier.—Further remarks in next number by J. Delamain.

**Revue Francaise d'Ornithologie.** No. 222. October, 1927. [In French.]

Capture of *Diomedea chrysostoma* in France. By N. Mayaud.



Experiments on the Orientation of Birds. By J. Casamajor.—Pigeons with ear passages obstructed, others with eyes bandaged and others with magnetic hoods were flown.

**Le Gerfaut.** 17. Fasc. 2. 1927. [In French.]

Contains local notes and observations on migration in Belgium.

**Journal für Ornithologie.** LXXV, Heft 4. October, 1927. [In German.]

Observations on Jackdaws. By Konrad Lorenz.

How did Bechstein's Picture of the "Waldrapp" Originate. By Hugo Hildebrandt.

Contributions to the Ornithology of East Holstein. Bird Migration in the Western Corner of the Bay of Lubeck. By Carl Lunau.

The Distribution Ranges of Some European Birds as a Result of Historic Evolution. By F. S. Steinbacher.

An Unusual Aberration of *Perdix perdix*. By E. Stresemann.

Some Contributions to the Knowledge of our Grouse. By E. Lönnberg.—Showing comparable feathers with an aftershaft in winter, and without it in summer; also changes in the feathering of the feet and shape of the bill.

The Snow Finches. By E. Mayr.—Dr. Sushkin's paper on Classification of Weaver Birds (p. 000) takes a very different view of the relationship of these birds removing several of them to the Ploceidae. The genus *Leucosticte* is considered at length.

Investigations on nests of *Podiceps cristatus*. By Gottfried Schiermann.

On the Bird Fauna of the Jakuten Region. By H. Grote.

**Ornithologische Monatsberichte.** 38, No. 5. September, 1927. [In German.]

The Breeding Birds of Heligoland. By R. Drost

New Subspecies from North Kansu (China). By E. Stresemann.—*Phoenicurus schisticeps beiki* (p. 134), *Janthocincla davidi funebris* (p. 134), *Dryobates major beiki* (p. 134).

On the Former Distribution of the Ostrich in Algeria. By E. Stresemann.

In short notes. H. Grote describes *Lybius torquatus pumilio* (p. 144) Uvira, north end of Tanganyika, and *Parus atricapillus uralensis* (p. 149) for *P. a. rossicus* and E. Mayr, *Prunella rubeculoides fusca* (p. 148) west Seetschwan, China and *P. r. beiki* (p. 149) North Kansu.

**Ornithologische Monatsberichte.** 35, No. 6. November, 1927. [In German.]

Nestling Studies of Pommeranian Birds. By P. Robien.

Observations on and identification Marks of *Luscinia svecica gaelkei* and *L. s. svecica*. By R. Drost.

Unseasonable Migration of Gray Geese. By H. Krohn.

On the Crossbill Invasion of 1927. By various contributors.



**Beiträge zur Fortpflanzungsbiologie der Vögel.** 3, No. 5. September, 1927. [In German.]

On the Occurrence, Breeding and Nesting of *Phylloscopus b. borealis* in Finland. By J. Carpelan.

Must the Bird Learn its Song. By E. Christoleit.—Comment in next issue by O. Heinroth and G. F. E. Schultz.

Observations on the Breeding of Captive Birds. By E. Zollikofer.

Further Notes on the Breeding of *Parus a. salicarius*. By G. Stein.

Notes on Birds Nesting near one another. By G. Schiermann.

On the Nest and Eggs of *Muscicapa p. parva*. By W. Christoleit.

On the Cuckoo Question. By W. Bachmeister.

**Beiträge zur Fortpflanzungsbiologie der Vögel.** 3, No. 6. November, 1927. [In German.]

On the Nest of *Emberiza cirrlus*. By Fr. Zumstein.

Eggs of the Syrian Ostrich. By J. Ajaroni.

On the Breeding Time of the Birds of "Klein-Africa." By E. Hartert.  
—Notes on 185 species.

**Der Ornithologische Beobachter.** XXIV, Heft 11. August, 1927. [In German or French.]

What the Wings of Certain Birds will Support in Centigrammes per square Centimetre. By R. Poncy.

The First Cock Crow in the Morning. By R. Hottinger.

The New Bird House at the Zoological Garden at Basil. By A. Wendnagle.

**Der Ornithologische Beobachter.** XXIV, Heft. 12. September, 1927. [In German or French.]

Note on *Bubulcus ibis* and *Ardea veranii* from Notes of Henri Vaucher 1900–1910. By A. Vaucher.

**Der Ornithologische Beobachter.** XXV, Heft. 1. October, 1927. [In German or French.]

*Acrocephalus schoenobaenus*. By A. Hess.—With colored plate.

Contribution to Systematic Knowledge of *Regulus*. By U. A. Corti.

**Der Ornithologische Beobachter.** XXV, Heft 2. November, 1927. [In German or French.]

The First Cock Crow in the Morning. By R. Hottinger.—Charts showing time for each month in the year. (Continued from previous numbers.)

Articles on bird-banding and bird-protection run through all issues.

**Club van Nederlandsche Vogelkundigen, Jaarbericht.** No. 17, Af. 2. October, 1927. [In Dutch or French.]

Good Technique. By W. C. Van Heurs.—Suggestions as to the proper way to record observations, labels, etc.

The Laughing Gulls in Winter at Montreux. By Snoukaert van Schauberg.

#### Ornithological Articles in Other Journals.

**Stewart, Walter.** Studies of Some Lanarkshire Birds. The Raven. (*Scottish Naturalist*, July–August, 1927.)

**McWilliam, J. M.** Some Abnormal Eggs of Wild Birds. (*Scottish Naturalist*, July–August, 1927.)

**Kuroda, Nagamichi.** A History of the Ornithology of Japan. (*Natural Science*, II, No. 2, October 1927.) [In Japanese.]

**Uchida, S.** Solving the Problems of Bird Migration by Banding. (*Mid-Pacific Magazine*, Honolulu XXXIV, No. 4, October, 1927.)

**Idrac, P.** Flight without Flapping or the Soaring of Birds. (*L'Illustration*, November, 1927.) [In French.]

**Huey, Laurence M.** A New Louisiana Heron and a New Round-tailed Ground Squirrel from Lower California, Mexico. (*Transactions San Diego Soc. Nat. Hist.*, V, No. 7, pp. 83–86, October 10, 1927.)

**Richmond, Charles W.** Two Preoccupied Names for Birds. (*Proc. Biol. Soc. Washington*, 40, pp. 97–98, June 30, 1927.)—*Taczanowskia* and *Hellmayria* proposed by Stolzmann were found by Dr. Richmond to be preoccupied and Mr. Stolzmann asked him to publish as respective substitutes, *Phrenotriccus* and *Neohellmayria*.

**Parker, Charles A.** The Battling Tern. (*American Forests*, October, 1927.)—At Tern Island, Chatham, Mass.

**Rutledge, Archibald.** Plantations as Game Preserves. (*American Forests*, October, 1927.)—In the Santee District, South Carolina.

**Sprunt, Alexander, Jr.** The King of Birds. (*American Forest*, November, 1927.)—The Wild Turkey.

**Kalmbach, E. R.** An Immigrant on Trial. (*American Forest*, December, 1927.)—The Starling.

## CORRESPONDENCE.

## Songs of Field and Savannah Sparrows.

Editor of 'The Auk':

Mr. Mousley ('Auk,' xlv, 1927, p. 523) includes the Field Sparrow (*Spizella pusilla pusilla*) in his list of the birds of Hatley, Quebec, on the strength of a list of species observed at Sherbrooke by Mr. R. G. Price, printed in 'The Ottawa Naturalist,' XXIV, 1910, 55-57, supplemented by a letter from Mr. Price. In a locality where the Indigo Bunting is found one need not be surprised to find the Field Sparrow also, but a careful consideration of the evidence given of its actual occurrence in the Hatley-Sherbrooke region is not convincing. Mr. Price's rendering of the song of his 'Field Sparrows' as "sit-sit-sit and s-i-n-g f-r-e-e," resembling as it does so closely Dr. Dwight's *tsip-tsip-tsip' sē'-ē-ē-s'r-r-r* in Chapman's Handbook, strikes me as a particularly happy rendering of the *Savannah Sparrow's* song, while I cannot see in it the slightest suggestion of the Field Sparrow's. It is significant, too, that Mr. Price says that the song "is usually delivered from the top of a fence post or some low object"—very characteristic of the Savannah Sparrow but not of the Field Sparrow, which usually chooses a higher perch. Still more significant is the fact that though the Savannah Sparrow is "fairly common" at Hatley, it is entirely omitted from Mr. Price's Sherbrooke list. Of course the Savannah Sparrow is much more a *field* Sparrow than *Spizella pusilla*, and it is not surprising that Mr. Price, who includes the "Jenny Wren" in his list, should know it by that name. Even so good an observer as Thoreau was deceived by a mere name when he called the Pileated Woodpecker of the Maine woods the Red-headed Woodpecker, adding the scientific name *Picus erythrocephalus*. Mr. Mousley may not be the first author to accept Mr. Price's 'Field Sparrows' at their face value, and, as it is always hard to overtake a false record, he may not be the last; so that we can only hope that he will himself soon find an undoubted Field Sparrow at Hatley and thus establish the presence there of a species that pretty surely does not as yet deserve a place in his list.

FRANCIS H. ALLEN.

West Roxbury, Mass.

Dec. 1, 1927.

## Correction of Error.

Editor of 'The Auk':

In Volume XLIV, p. 589 of 'The Auk' in mentioning the contents of the 'Journal für Ornithologie' the heading of some controversies between Dr. Stresemann and myself has been translated "The breaking down of our conception of a species." This translation, I am sorry to say, is incorrect and misleading. The heading was "Grenzfälle des Artbegriffes"

which I would translate "Cases from the borderline of species and subspecies." I think this conveys a totally different meaning. Our controversy was about the question whether a certain form should be considered as a species or subspecies, while it did not at all alter our conception of a species. It seems to me not a good custom to translate the headings of articles, if in foreign languages, into English. They should be given in the original languages and a translation into English might be added in brackets for those who only understand English. If titles are translated, the translation should be made very carefully so as to avoid mistakes.

Yours, etc.

E. HARTERT.

*Tring, England,  
November, 1st, 1927.*

**The Francis Foster Sanctuary.**

Editor of 'The Auk':

I note in the current 'Auk', page 595, that Mr. Francis A. Foster is stated to have given the "Federation of Bird Clubs of New England" 600 acres of forested land, and that he will provide an endowment for its maintenance. I regret to say that this statement is not correct and I am much disturbed to have it appear in print in so substantial a journal.

The facts are that in a will recently made by Mr. Foster there is a clause willing a certain tract of 600 acres to the Federation, together with an adequate endowment for its maintenance. We are hopeful that when Mr. Foster's will shall be probated we shall indeed come into possession of this magnificent tract of land with an accompanying endowment.

Sincerely yours,

CHARLES L. WHITTLE.

*Boston, Mass.*

[We were apparently misled by a reprint from the 'Boston Evening Transcript,' headed "600 acres given by Francis Foster as a Bird Sanctuary" and containing the further statement that he "will provide an endowment adequate to maintain it as a public reservation." The reprint we certainly understood was distributed by the Federation of Bird Clubs of New England.]

#### NOTES AND NEWS.

MR. ROBERT THOMAS MOORE of Pasadena, California, who recently returned from Ecuador writes us that "Ludovico Söderstrom, the widely known naturalist of Quito, passed away on the third of July and was buried on the fourth. His doctor advised me that he had endured intense suffering for years at periodic intervals, nevertheless, his will-power kept him on his feet most of the time. Mr. Vorbeck of Quito who notified me of his death said: 'Only the last few days he accepted a trained German nurse, simply having sent her home again twice, as doctor and I presented her,'—an indication of his courage and fortitude!

"The day we left Quito, June 5th, we called for a last good-bye and took some flowers and a gift to him as a last token of our appreciation of all his courtesies. During the three months we made Quito our headquarters, we called quite frequently and he seemed to appreciate our visits greatly. He liked to talk about the days when he had chanced upon rare specimens, and his extended trips on the great Andean mountain masses, or through the numerous "quebrabas" and canyons which provide mountain passes between the Andean peaks into the "Occidente" on the West and the "Oriente" on the East of the central mountain chain. Although he was confined to his rooms in Quito, he was able to hobble about on crutches and frequently insisted on placing seats for Mrs. Moore and myself in the little second floor patio when we called. His mind was alert to the last. Even when he was finally confined to his bed on June 5th, the doctor predicted to me that he would not survive twenty-four hours. Nevertheless, as you will perceive, he lived another month. Suffering as he was from an incurable disease which was slowly diminishing his great physical resistance, his mind maintained a keen interest in everything about him, and his power of observation never failed. His courtesy was one of his outstanding characteristics. Not once did he let us go away without some token of his friendship in the shape of a flowering orchid or memento from his collection. His friendship will always remain with us as one of the vividly worthwhile memories."

MR. J. H. FLEMING has recently accepted the position of Honorary Curator of Ornithology in the Royal Ontario Museum of Zoology, Toronto. Although his private collections will demand much of his attention he will now take an active interest in the Museum's affairs. Mr. Fleming is particularly well equipped to advise the staff on matters pertaining to its study collections and exhibition materials.

A MOST successful joint meeting of the Wilson Ornithological Club and the Inland Bird Banding Association was held at the Cleveland Museum of Natural History, Cleveland, Ohio, on November 25-27, 1927. Twenty-seven papers were presented and trips were made to the Aviary of Mr.

Kenyon V. Painter, the Baldwin Bird Laboratory and the game preserve of Mr. Chester Brooks, while on Friday evening Mr. and Mrs. S. Prentiss Baldwin and Mr. and Mrs. Herbert W. Brandt held open house at their homes. On Saturday evening a banquet was held at the Hotel Statler, with Dr. Francis H. Herrick, presiding and Mr. Baldwin as toastmaster.

MR. JAMES BOND of the Delaware Valley Ornithological Club has sailed for the West Indies to continue collecting in the interests of the Academy of Natural Sciences of Philadelphia and Mr. Rodolphe M. de-Schauense another member of the club is leaving shortly for a collecting trip to Siam under the Academy's auspices.

Mr. Wharton Huber, Assistant Curator of Birds at the Academy will spend some weeks on the Louisiana Coast collecting Waterfowl for the reference collection of Ducks and Geese.

THE U. S. Biological Survey has recently issued the annual report of the chief, Mr. Paul G. Redington; Game Laws for 1927-28; Directory of Officials and Organizations concerned with the Protection of Birds and Game: 1927 and Text of Federal Laws relating to Game and Birds.

THE Canadian Department of the Interior has published a "consolidated statute" giving the text of the migratory Birds Convention Act and the seasons for the various birds in the different provinces, as well as a list of the bird sanctuaries.

A PAMPHLET issued by the Royal Society for the Protection of Birds entitled 'Save the Sea-birds' contains a picture of one of the Bibby Liners all of which vessels are equipped with separators which prevent oil pollution under any circumstances.

A TOTAL of one hundred and eight paintings, drawings and etchings of birds and mammals were exhibited from December 9 to 19, 1927, in the gallery of the Harrisburg Public Library, under the auspices of the local Art Association.

The nucleus of the exhibition was a series of seven water-colors and one oil by the lamented Louis Agassiz Fuertes. Other artists represented were: Frank W. Benson, Major Allan Brooks, Charles Livingston Bull, R. Bruce Horsfall, Lynn Bogue Hunt, Mrs. M. W. Jacobs, Francis L. Jaques, George E. Lodge, Leo A. Luttringer, Jr., Benson Moore, Karl Plath, A. Phimister Proctor, Carl Rungius, Will Simmons, and George Miksch Sutton.

In connection with the exhibit a splendidly attended lecture on 'The Problems of the Bird Painter' was presented, and remarks on color pattern, facial expression and anatomy of birds were illustrated with paintings, lantern slides, and a living Barred Owl.

It is to be hoped that other towns will follow Harrisburg's excellent example.—G. M. S.



